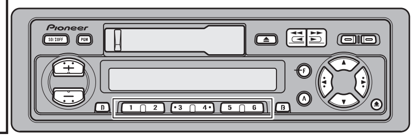
Pioneer

Service Manual

KEH-P2800/X1M/UC



ORDER NO.
CRT2268

MULTI-CD CONTROL HIGH POWER CASSETTE PLAYER WITH FM/AM TUNER

KEH-P2800 X1M/UC
KEH-P3850 X1M/ES

NOTE:
- **See the separate manual CX-644(CRT1800) for the cassette mechanism description.**
- **The cassette mechanism assy employed in this model is one of 2M series.**
- **This service manual does not describe the CD test mode.**
  For the operations in the CD test mode, refer to the CD player's Service Manual.

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE INC. P.O.Box 1760, Long Beach, CA 90801-1760 U.S.A.
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 253 Alexandra Road, #04-01, Singapore 159936

K-ZZB. DEC. 1998 Printed in Japan

1. SAFETY INFORMATION

CAUTION

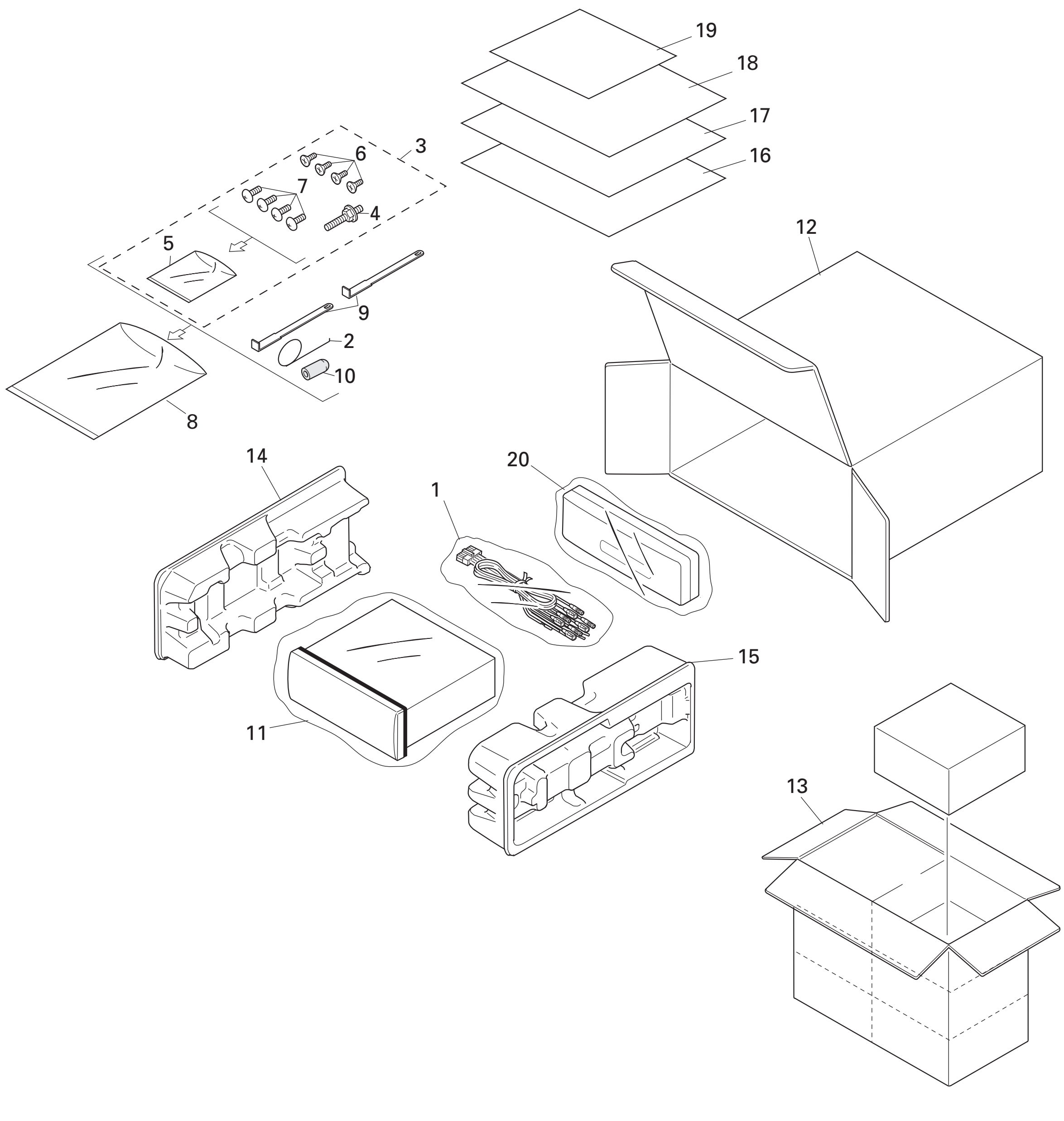
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

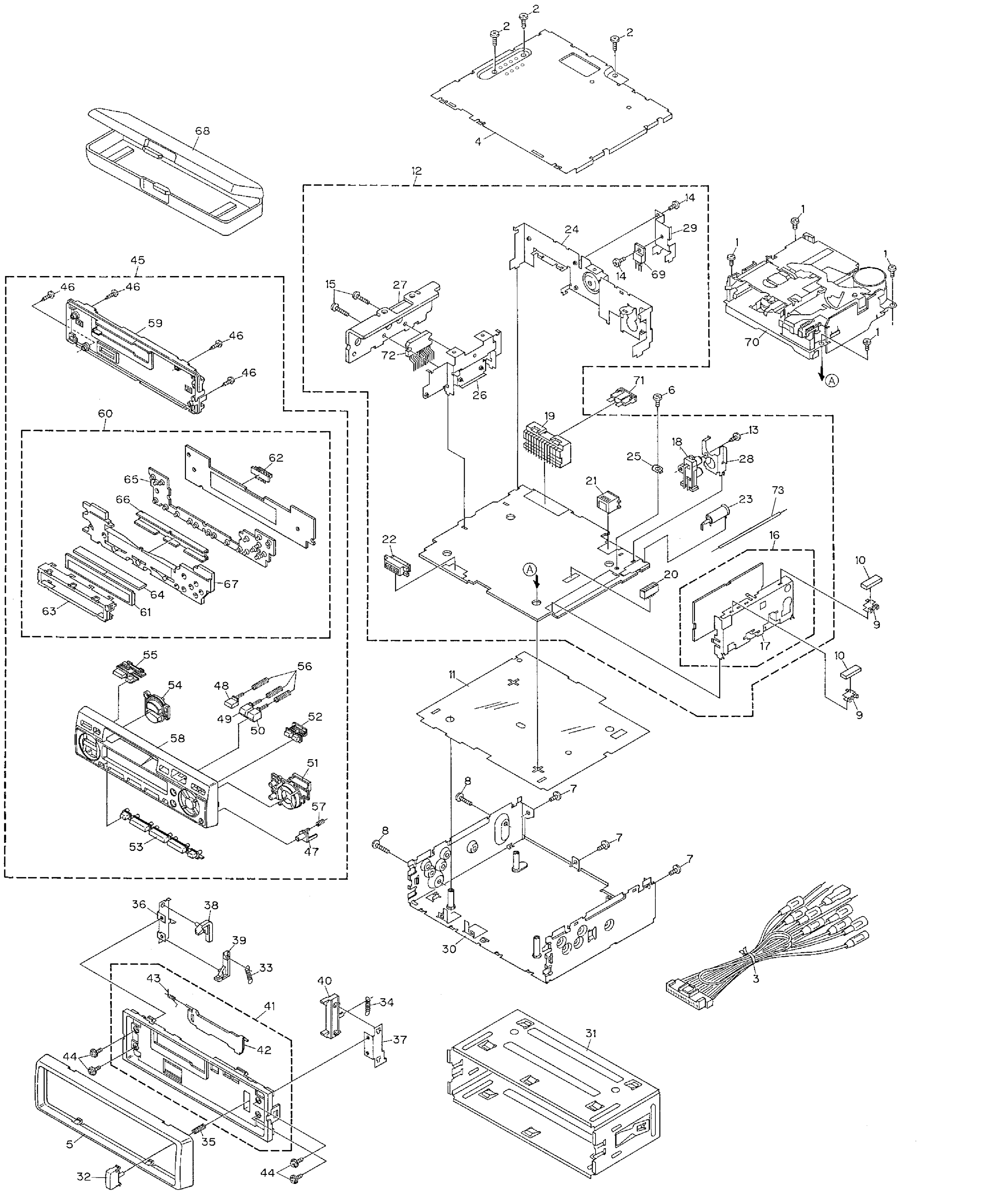
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part.No KEH-P2800/X1M/UC	Part.No KEH-P3850/X1M/ES
	1	Cord Assy	CDE5805	CDE5805
	2	Spring	CBH1650	CBH1650
	3	Screw Assy	CEA2351	CEA2351
	4	Screw	CBA1304	CBA1304
*	5	Polyethylene Bag	CEG-127	CEG-127
	6	Screw(x4)	CRZ50P090FMC	CRZ50P090FMC
	7	Screw(x4)	TRZ50P080FMC	TRZ50P080FMC
*	8	Polyethylene Bag	CEG-158	CEG-158
	9	Handle(x2)	CNC5395	CNC5395
	10	Bush	CNV3930	CNV3930
	11	Polyethylene Bag	CEG1173	CEG-162
	12	Carton	CHG3598	CHG3599
	13	Contain Box	CHL3598	CHL3599
	14	Protector	CHP1622	CHP1622
	15	Protector	CHP1623	CHP1623
	16	Owner's Manual	CRD2804	CRD2801
	17	Owner's Manual	Not used	CRD2802
	18	Installation Manual	CRD2805	CRD2803
*	19	Card	ARY1048	Not used
	20	Case Assy	CXB3520	CXB3520

● Owner's Manual, Installation Manual

Model	Part No.	Language
KEH-P2800/X1M/UC	CRD2804	English,French,Spanish
	CRD2805	English,French,Spanish
KEH-P3850/X1M/ES	CRD2801	English,Spanish,Portuguese(B)
	CRD2802	Chinese,Arabic
	CRD2803	English,Spanish,Portuguese(B),Chinese,Arabic

2.2 EXTERIOR


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(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P100FMC
	3	Cord Assy	CDE5805
	4	Case	CNB2481
	5	Panel	CNS5214
	6	Screw	BSZ30P055FUC
	7	Screw	BSZ30P060FMC
	8	Screw	BSZ30P100FMC
	9	Holder	CNC5704
	10	Cushion	CNM4870
	11	Insulator	CNM5025
	12	Tuner Amp Unit	See Contrast table(2)
	13	Screw	BPZ26P080FMC
	14	Screw	BSZ26P080FMC
	15	Screw	BSZ26P140FMC
	16	FM/AM Tuner Unit	See Contrast table(2)
	17	Holder	CNC6554
	18	Pin Jack(CN401)	CKB1035
	19	Plug(CN601)	CKM1270
	20	Connector(CN604)	CKS3362
	21	Connector(CN602)	CKS3408
	22	Connector(CN603)	CKS3581
	23	Antenna Jack(CN301)	CKX1056
	24	Panel	CNB2245
	25	Holder	CNC5399
	26	Holder	CNC6216
	27	Heat Sink	CNC6217
	28	Holder	CNC6531
	29	Holder	CNC6845
	30	Chassis Unit	CXA9851
	31	Holder Unit	CXB2687
	32	Button	CAC4836
	33	Spring	CBH1834
	34	Spring	CBH1835
	35	Spring	CBH1996

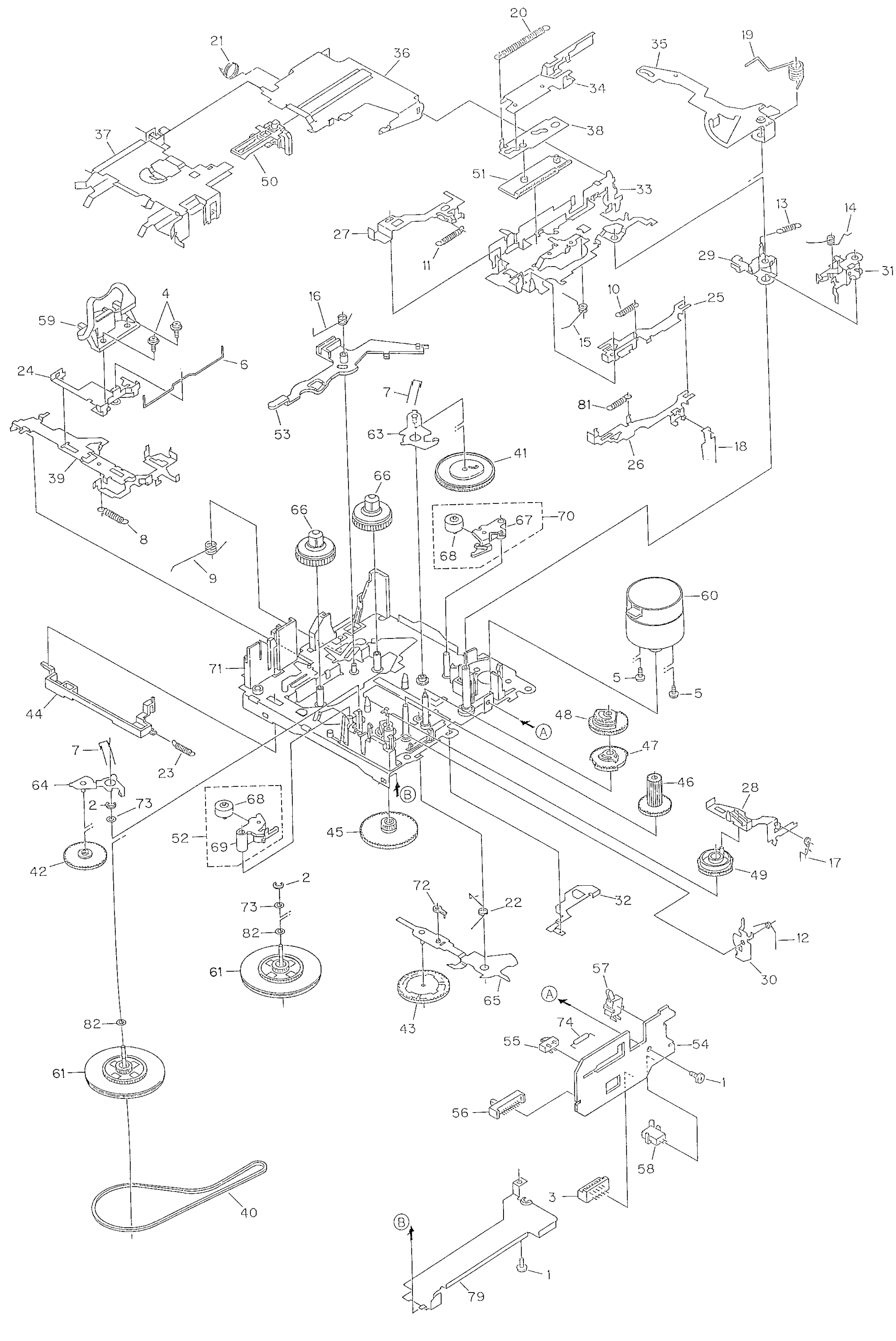
Mark	No.	Description	Part No.
	36	Bracket	CNC6135
	37	Bracket	CNC6791
	38	Arm	CNV4692
	39	Arm	CNV4693
	40	Arm	CNV4728
	41	Panel Unit	CXB3715
	42	Door	CAT2028
	43	Spring	CBH1838
	44	Screw	IMS20P030FZK
	45	Detach Grille Assy	See Contrast table(2)
	46	Screw	BPZ20P120FZK
	47	Button(Detachable)	CAC5868
	48	Button(Eject)	CAC5870
	49	Button(REW)	CAC5872
	50	Button(FF)	CAC5874
	51	Button(F,A,Cross)	CAC5876
	52	Button(-,-)	CAC5878
	53	Button(1-6,D,B)	CAC5880
	54	Button(+,-)	CAC5882
	55	Button(SO/OFF,PGM)	CAC5884
	56	Spring	CBH1836
	57	Spring	CBH2103
	58	Grille	See Contrast table(2)
	59	Cover	CNS5209
	60	Keyboard Unit	CWM6273
	61	LCD(LCD901)	CAW1513
	62	Connector(CN901)	CKS3580
	63	Holder	CNC8054
	64	Connector	CNV5586
	65	Rubber	CNV5587
	66	Holder	CNV5589
	67	Lighting Conductor	CNV5752
	68	Case Assy	CXB3520
	69	Transistor(Q804)	2SD2396
	70	Cassette Mechanism Assy	EXK3450
	71	Fuse(FU951)(10A)	CEK1136
	72	IC(IC501)	TDA7384
*	73	Cord	See Contrast table(2)

(2) CONTRAST TABLE

KEH-P2800/X1M/UC and KEH-P3850/X1M/ES are constructed the same except for the following:

			Part No.	
Mark	No.	Description	KEH-P2800/X1M/UC	KEH-P3850/X1M/ES
	12	Tuner Amp Unit	CWM6276	CWM6349
	16	FM/AM Tuner Unit	CWE1467	CWE1486
	45	Detach Grille Assy	CXB3369	CXB3375
	58	Grille	CNS5200	CNS5201
*	73	Cord	CDC1043	Not used

2.3 CASSETTE MECHANISM ASSY



● CASSETTE MECHANISM ASSY SECTION PARTS LIST

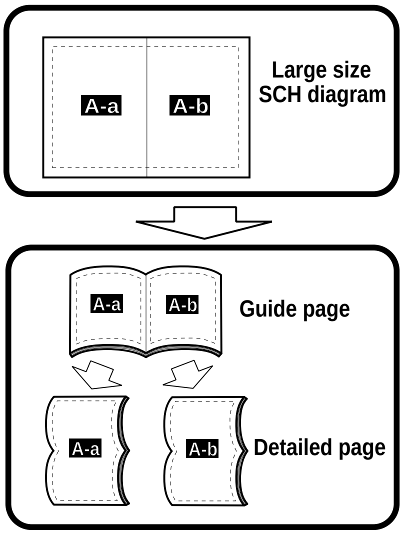
Mark	No.	Description	Part No.
	1	Screw	BSZ23P050FMC
	2	Washer	CBG1003
	3	Connector(CN1)	CKS2829
	4	Screw(M2x5)	EBA1038
	5	Screw(M2x2.5)	EBA1037
	6	Spring	EBH1554
	7	Spring	EBH1555
	8	Spring	EBH1556
	9	Spring	EBH1603
	10	Spring	EBH1591
	11	Spring	EBH1559
	12	Spring	EBH1593
	13	Spring	EBH1561
	14	Spring	EBH1562
	15	Spring	EBH1563
	16	Spring	EBH1590
	17	Spring	EBH1565
	18	Spring	EBH1566
	19	Spring	EBH1567
	20	Spring	EBH1568
	21	Spring	EBH1569
	22	Spring	EBH1571
	23	Spring	EBH1579
	24	Head Base	ENC1475
	25	Lever	ENC1429
	26	Lever	ENC1430
	27	Lever	ENC1431
	28	Lever	ENC1432
	29	Arm	ENC1433
	30	Arm	ENC1434
	31	Arm	ENC1480
	32	Arm	ENC1476
	33	Bracket	ENC1512
	34	Lever	ENC1523
	35	Arm	ENC1524
	36	Frame	ENC1440
	37	Holder	ENC1441
	38	Lever	ENC1446
	39	Lever	ENC1478
	40	Belt	ENT1027
	41	Gear	ENV1504
	42	Gear	ENV1470
	43	Gear	ENV1517
	44	Lever	ENV1472
	45	Gear	ENV1510
	46	Gear	ENV1475
	47	Gear	ENV1512
	48	Gear	ENV1513
	49	Gear	ENV1502
	50	Lever	ENV1480
	51	Lever	ENV1487
	52	Pinch Holder Unit	EXA1516
	53	Arm	ENV1519
*	54	PCB	ENP1161
	55	Switch(Eject)(S4)	ESG1006
	56	Switch(FWD)(REV)(S3)	ESH1006
	57	Switch(Load)(S1)	ESN1016
	58	Switch(Mute)(S2)	ESN1017
	59	Head Assy(HD1)	EXA1466
	60	Motor Unit(M1)	EXA1467
	61	Flywheel Unit	EXA1547
	62	•••••	
	63	Arm Unit	EXA1447
	64	Arm Unit	EXA1448
	65	Arm Unit	EXA1550
	66	Reel Unit	EXA1450
	67	Pinch Holder	ENV1466
	68	Pinch Roller	ENV1518
	69	Pinch Holder	ENV1467
	70	Pinch Holder Unit	EXA1515
	71	Chassis Unit	EXA1498
	72	Arm	ENV1524
	73	Washer	CBF-167
	74	Resistor(R1)	RD1/4HM472J
	75-78	•••••	
	79	Cover	ENC1452
	80	•••••	
	81	Spring	EBH1592
	82	Washer	CBF1051

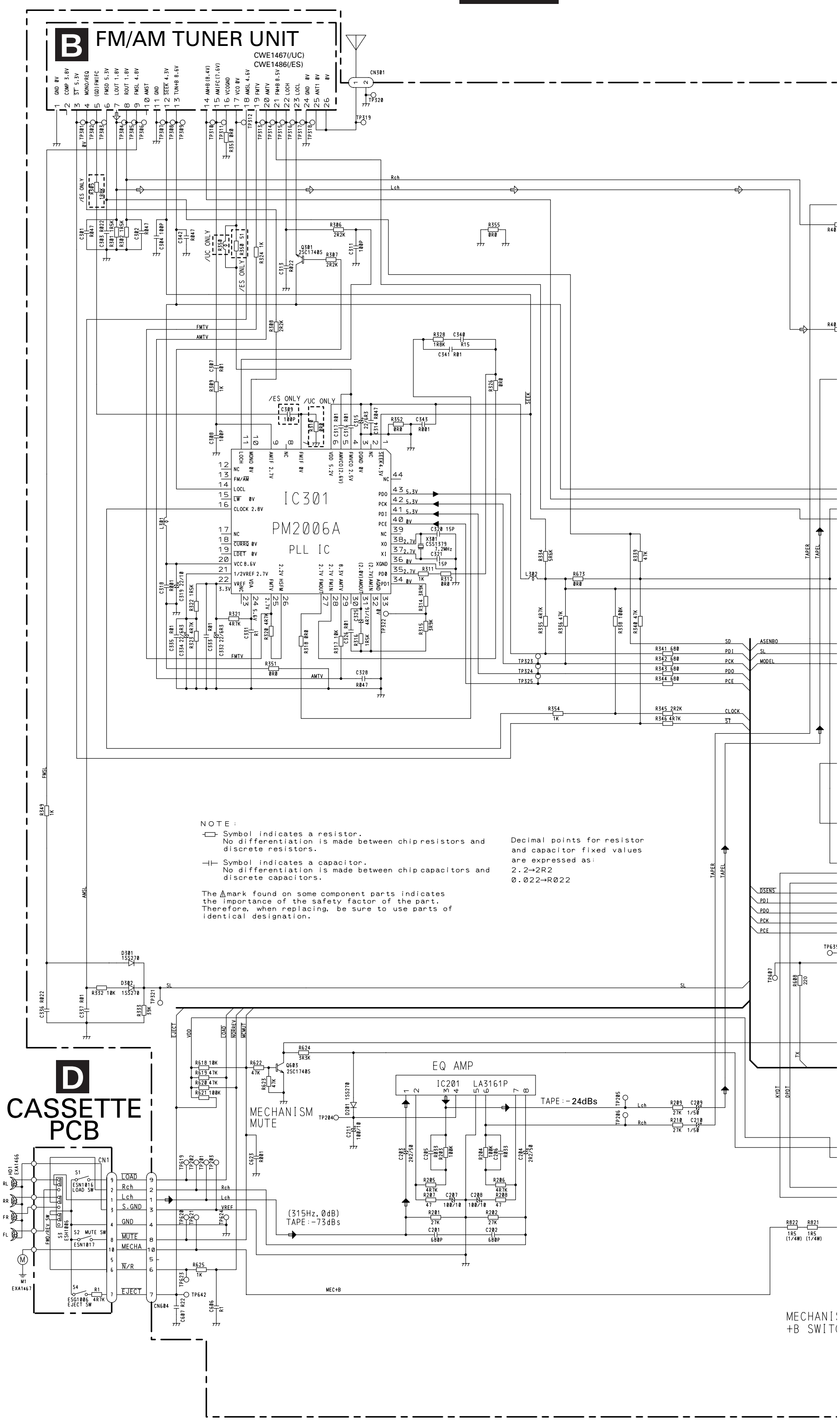
3. SCHEMATIC DIAGRAM

3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to “EXPLODED VIEWS AND PARTS LIST” or “ELECTRICAL PARTS LIST”.

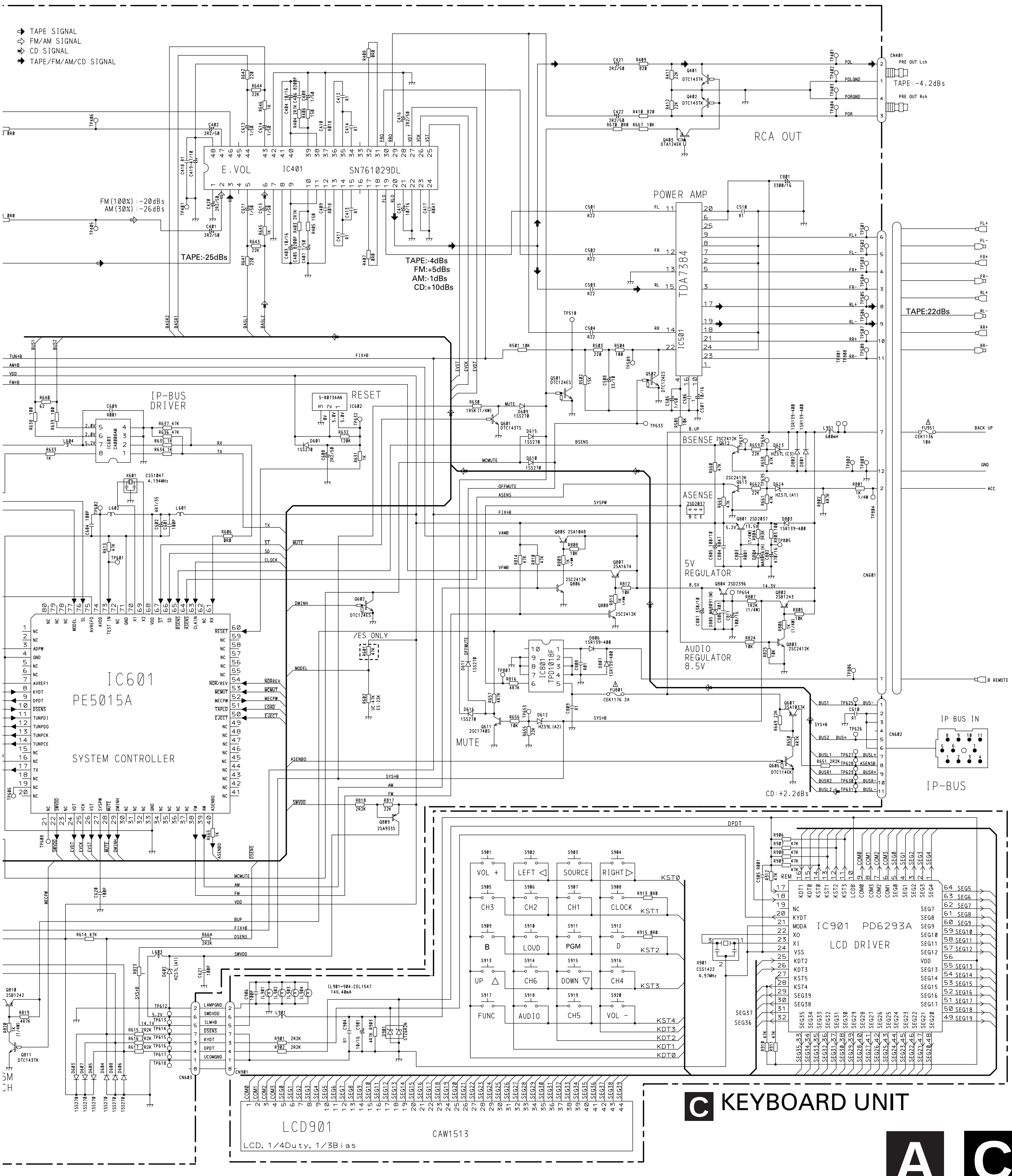
A-a





A-b

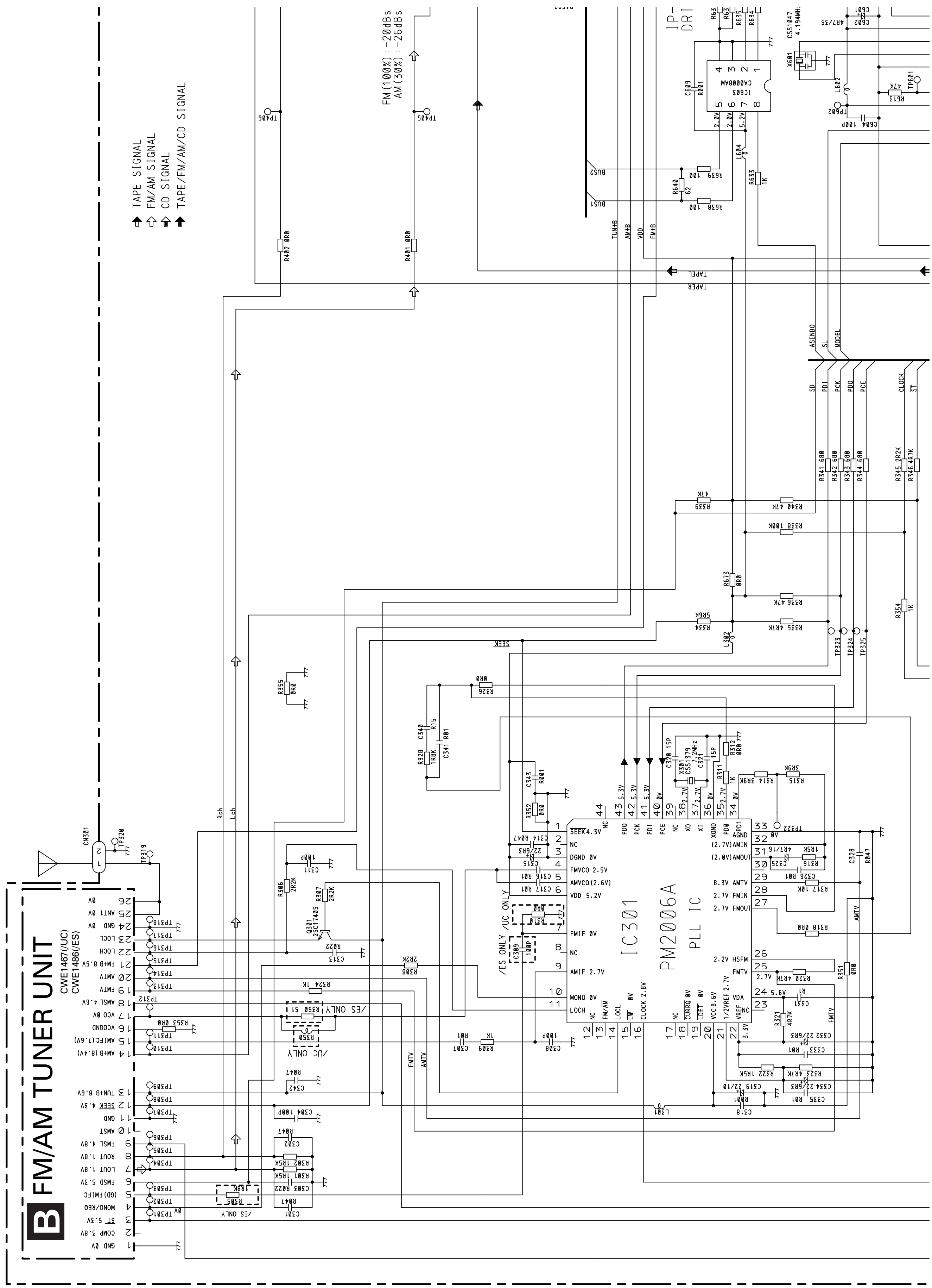
A TUNER AMP UNIT

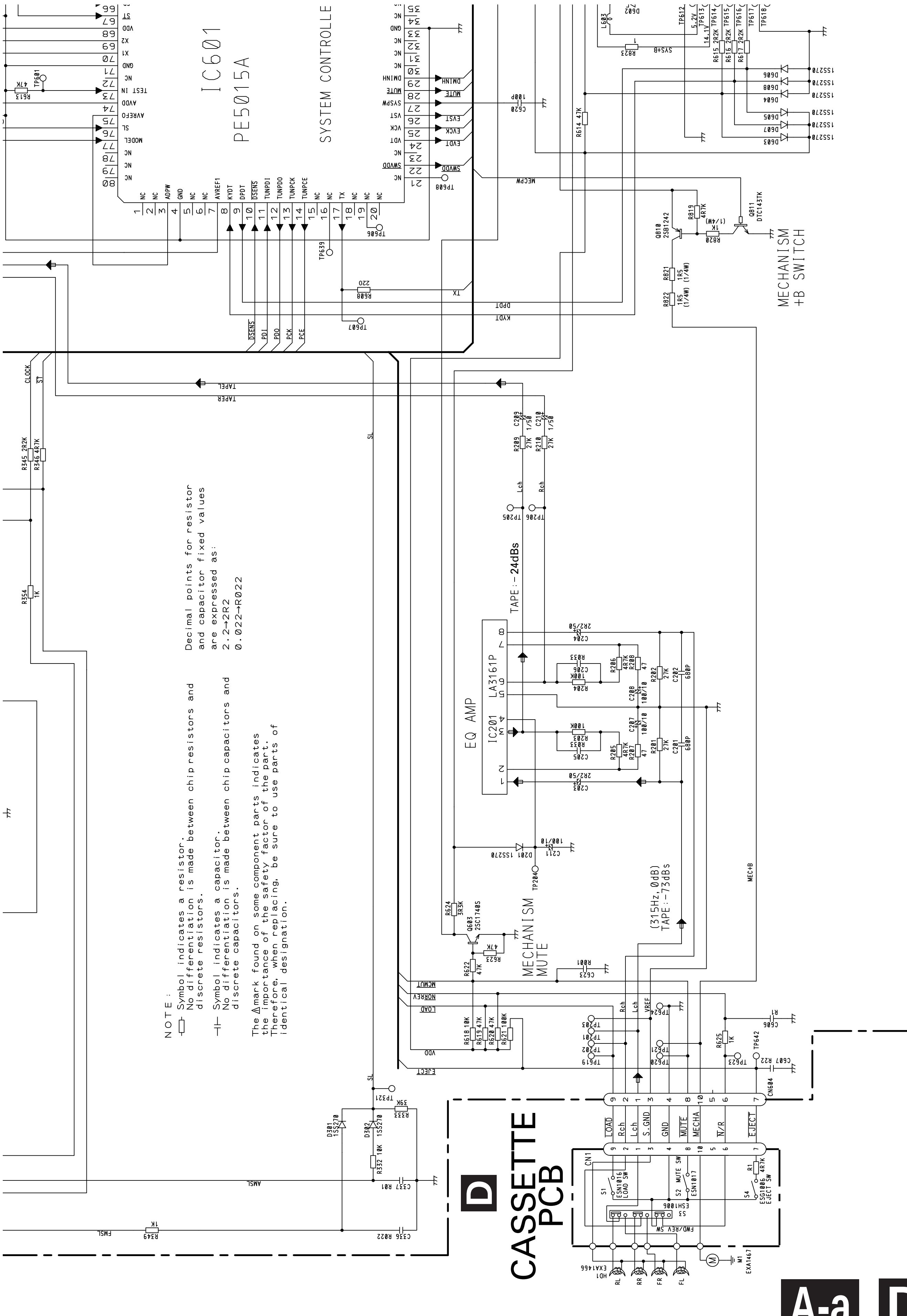


A C

A B C D

A-b
A-a

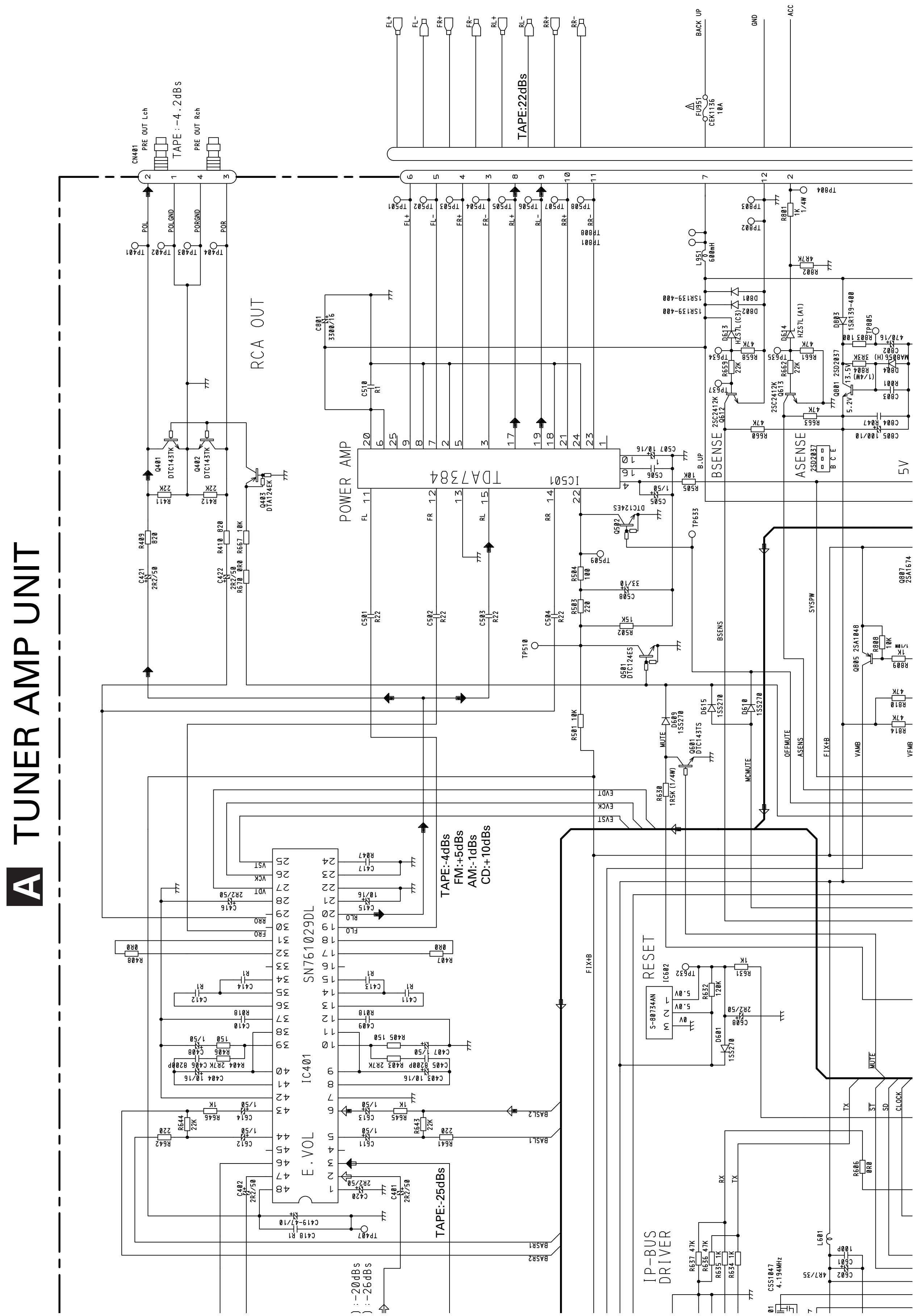

TAPE SIGNAL
FM/AM SIGNAL
CD SIGNAL
TAPE/FM/AM/CD SIGNAL
FM(100%) : -20dBs
AM(30%) : -26dBs
B FM/AM TUNER UNIT
CWE1467(/UC)
CWE1486(/ES)
IC301
PM2006A
PLL IC

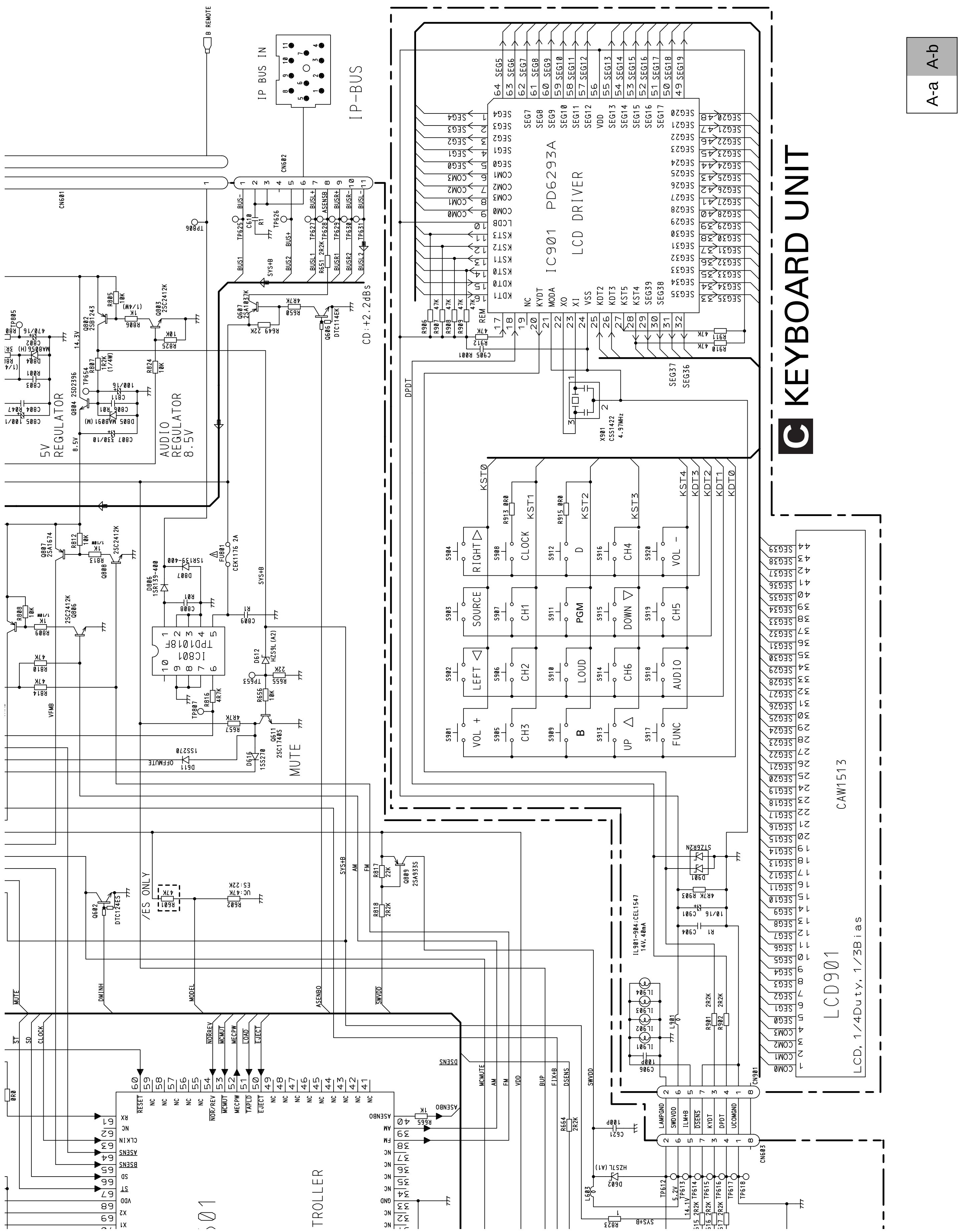

IC601
PE5015A
SYSTEM CONTROLLE
EQ AMP
IC201 LA3161P
TAPE: -24dBs
(315Hz, 0dB)
TAPE: -73dBs
MECHANISM MUTE
MECHANISM +B SWITCH
D CASSETTE PCB
LOAD
Rch
Lch
S.GND
GND
MUTE
MECHA
N/R
EJECT
NOTE:
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
The Δmark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

A-a A-b

A-a D

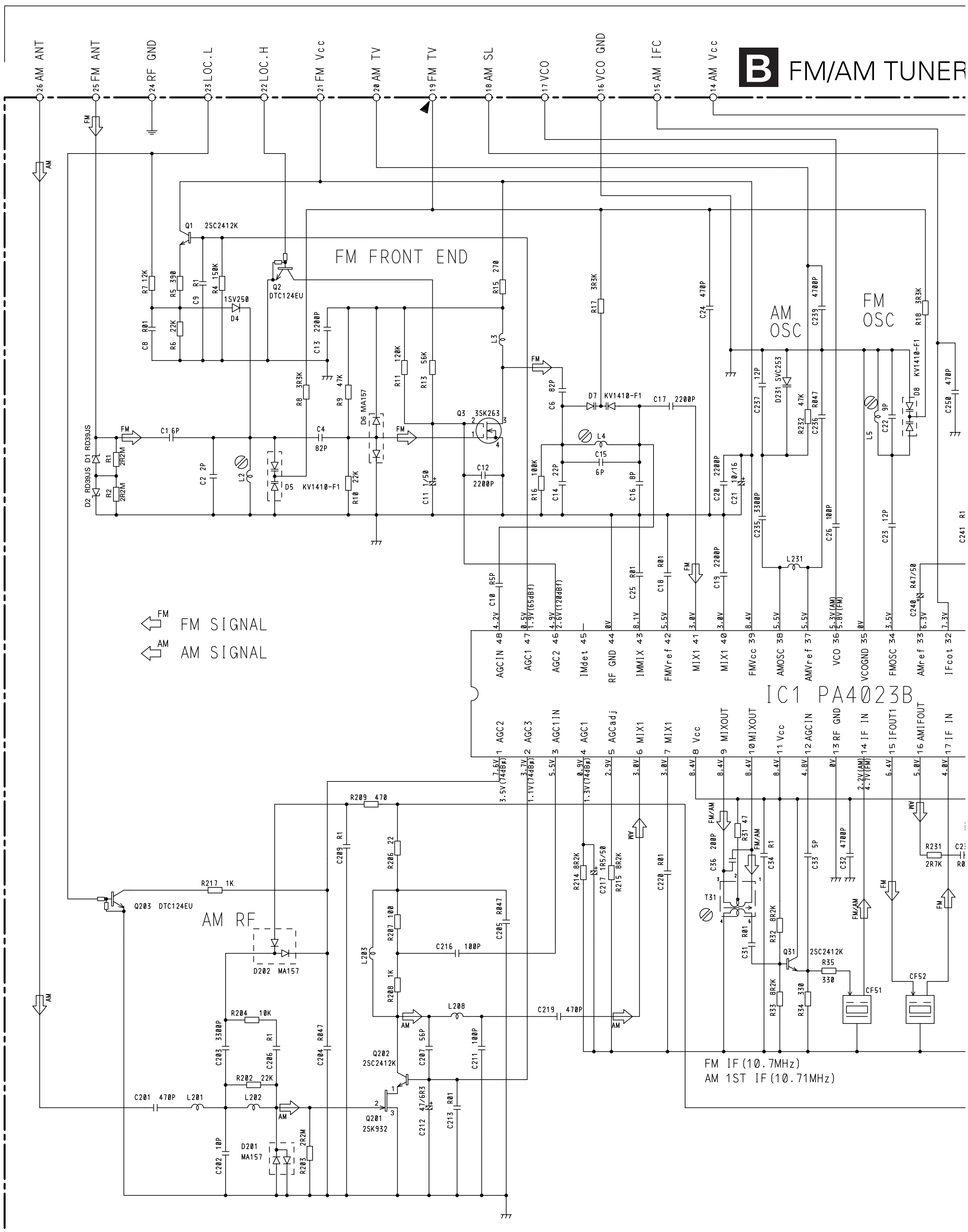
A-b
A-a


A TUNER AMP UNIT
RCA OUT
POWER AMP
TDA7384
IC501
SN761029DL
IC401
E.VOL
TAPE:22dBs
TAPE:-4dBs
FM:+5dBs
AM:-1dBs
CD:+10dBs
TAPE:-25dBs
BSENSE
ASENSE
RESET
IP-BUS DRIVER

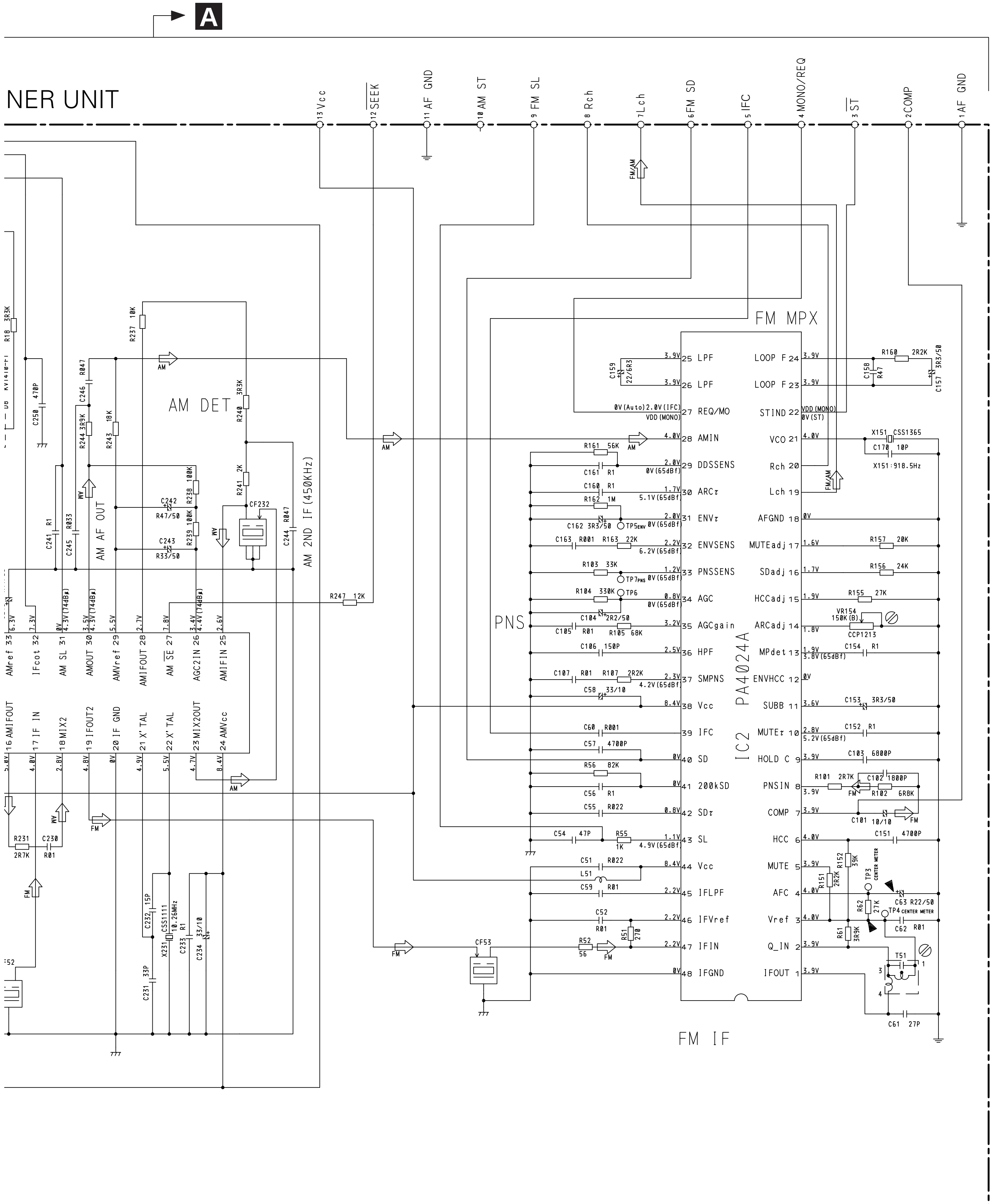

C KEYBOARD UNIT
IC901 PD6293A
LCD DRIVER
LCD901
LCD, 1/4Duty, 1/3Bias
CAW1513
IP BUS IN
IP-BUS
5V REGULATOR
AUDIO REGULATOR 8.5V
IC801
TPD1018F
MUTE
CD:+2.2dBs
/ES ONLY
TROLLER
X901 CSS1422 4.97MHz
IL901~904:CEL1547 14V,40mA
SOURCE
CLOCK
PGM
LOUD
AUDIO
FUNC
VOL +
VOL -

3.2 FM/AM TUNER UNIT

● CWE1467 (KEH-P2800/X1M/UC)



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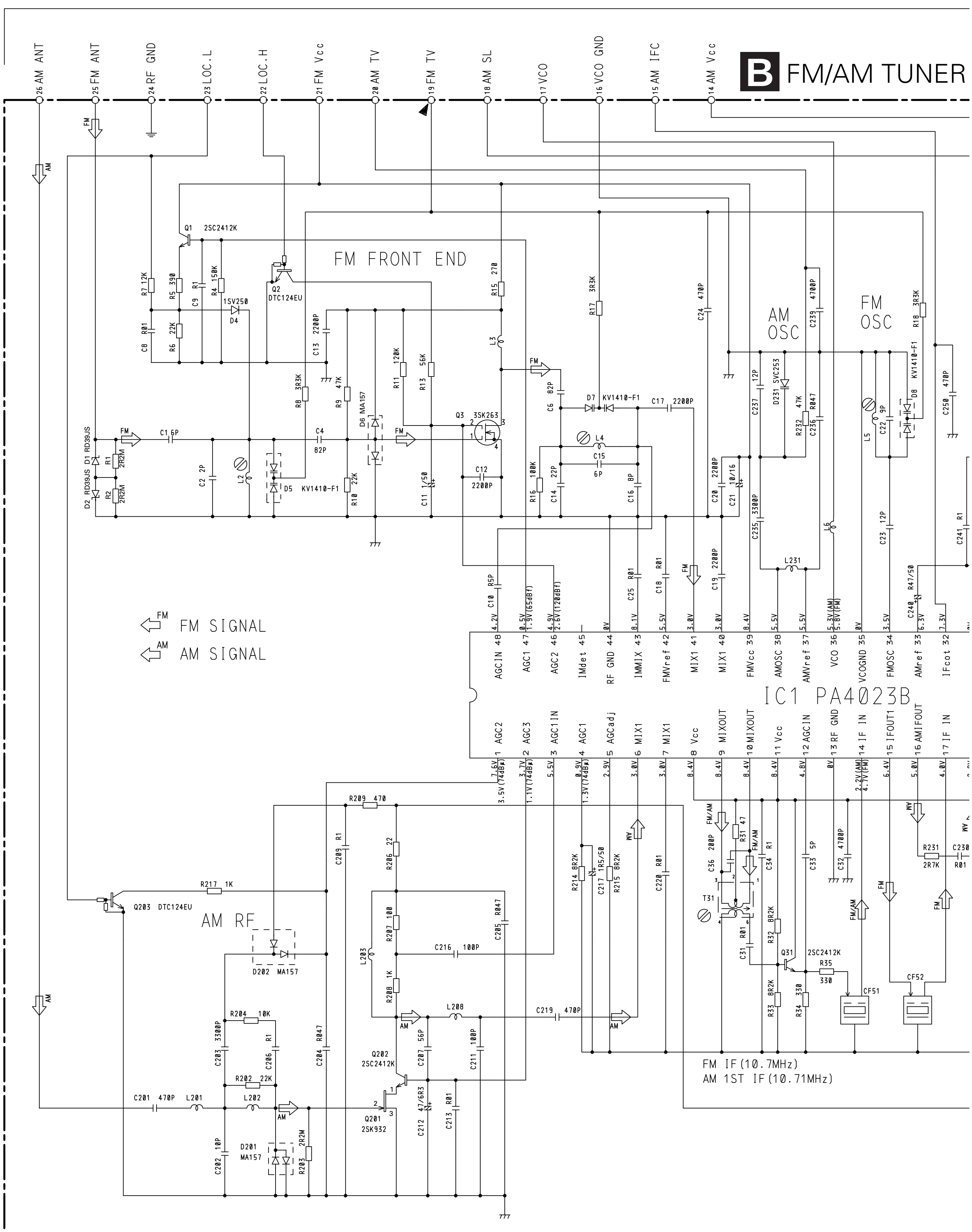

A
NER UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
PNS
AM AF OUT
AM 2ND IF (450KHz)
IC2 PA4024A
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
LOOP F 24
LOOP F 23
STIND 22
VCO 21
Rch 20
Lch 19
AFGND 18
MUTEadj 17
SDadj 16
HCCadj 15
ARCadj 14
MPdet 13
ENVHCC 12
SUBB 11
MUTEr 10
HOLD C 9
PNSIN 8
COMP 7
HCC 6
MUTE 5
AFC 4
Vref 3
Q_IN 2
IFOUT 1
AMref 33
IFcot 32
AM SL 31
AMOUT 30
AMVref 29
AMIFOUT 28
AM SE 27
AGC2IN 26
AMIFIN 25
16 AMIFOUT
17 IF IN
18 MIX2
19 IFOUT2
20 IF GND
21 X'TAL
22 X'TAL
23 MIX2OUT
24 AMVcc
X151 CSS1365
X151:918.5Hz
VR154 150K(B)
CCP1213
TP3 CENTER METER
TP4 CENTER METER
T51
CF232
CF53
X231 CSS1111 10.26MHz

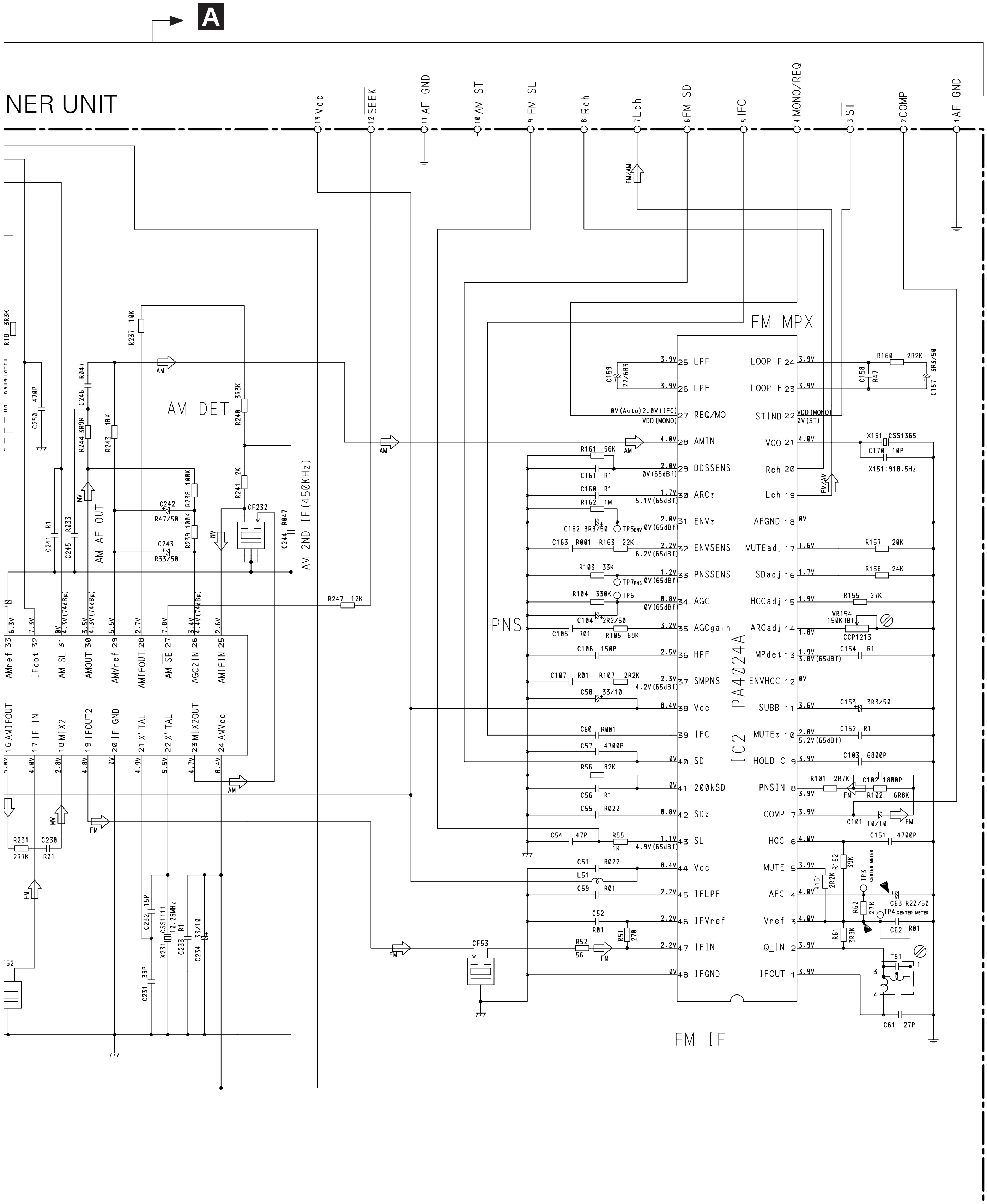
B

C

D

● CWE1486 (KEH-P3850/X1M/ES)



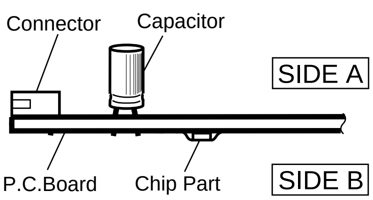

A
NER UNIT
13 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
FM MPX
AM DET
AM AF OUT
AM 2ND IF (450KHz)
PNS
IC2 PA4024A
FM IF
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
LOOP F 24
LOOP F 23
STIND 22
VCO 21
Rch 20
Lch 19
AFGND 18
MUTEadj 17
SDadj 16
HCCadj 15
ARCadj 14
MPdet 13
ENVHCC 12
SUBB 11
MUTEr 10
HOLD C 9
PNSIN 8
COMP 7
HCC 6
MUTE 5
AFC 4
Vref 3
Q_IN 2
IFOUT 1
AMref 33
IFcot 32
AM SL 31
AMOUT 30
AMVref 29
AMIFOUT 28
AM SE 27
AGC2IN 26
AMIFIN 25
16 AMIFOUT
17 IF IN
18 MIX2
19 IFOUT2
20 IF GND
21 X'TAL
22 X'TAL
23 MIX2OUT
24 AMVcc
X151 CSS1365
X151:918.5Hz
VR154 150K(B)
CCP1213
T51
CF53
CF232
CENTER METER

4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

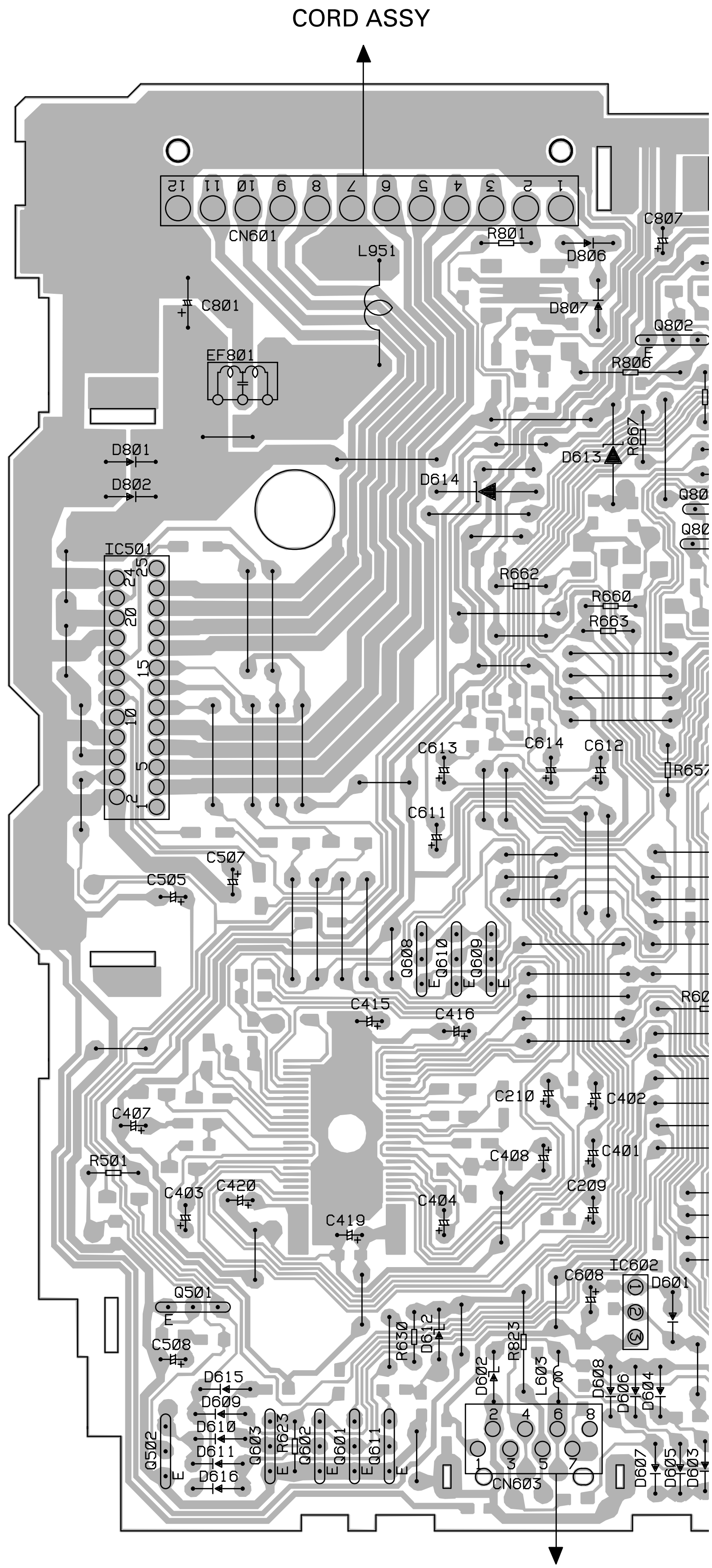
NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



A TUNER AMP UNIT

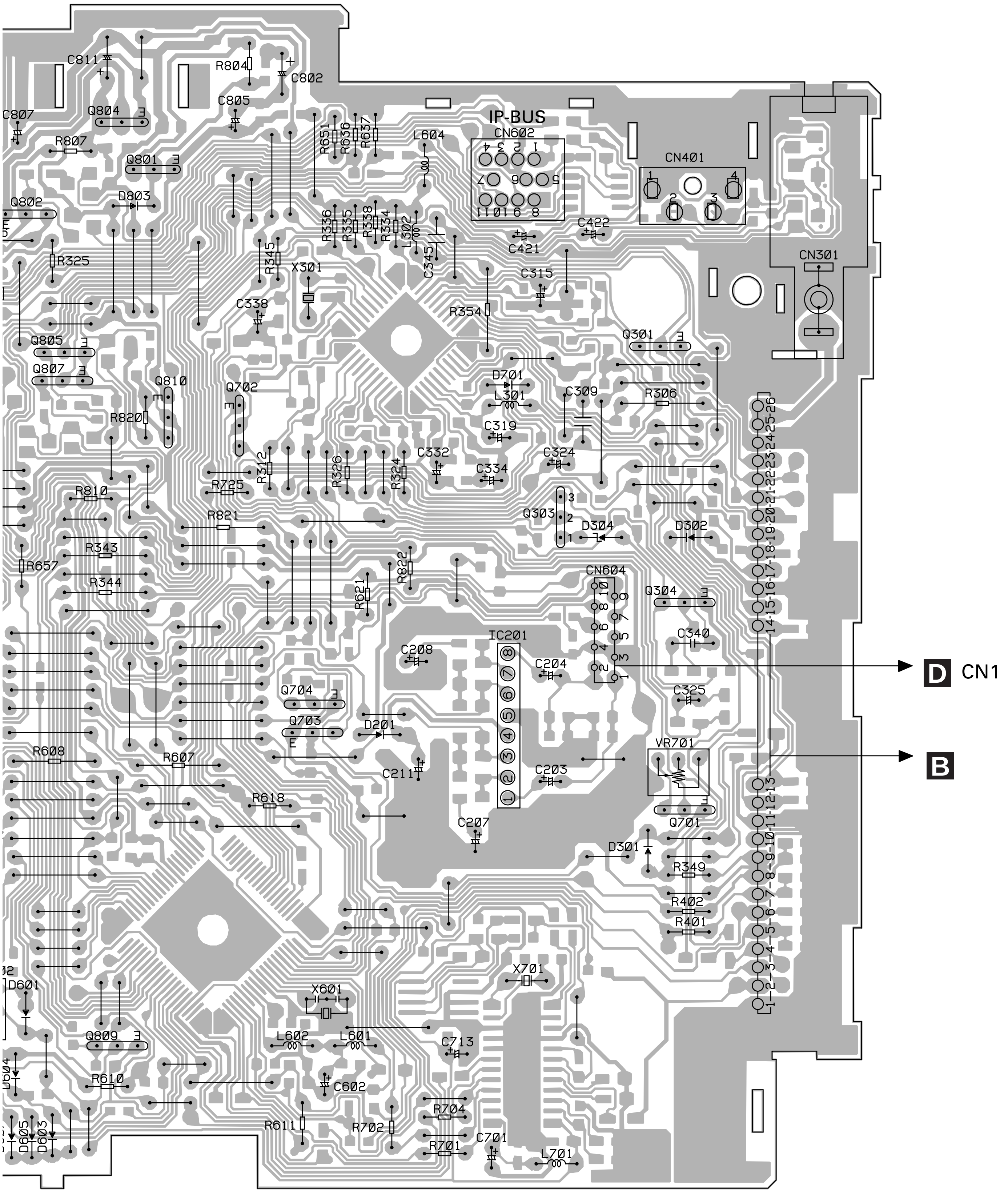
IC, Q	ADJ
Q804	
Q801	
Q802	
Q805 Q301	
Q807 Q810	
Q702 IC302	
IC501	
Q303	
Q304	
IC201	
Q704	
Q703	
Q608 Q610 Q609	VR701
Q701	
IC602	
Q501	
Q809	
Q602 Q601 Q611	
Q502 Q603	



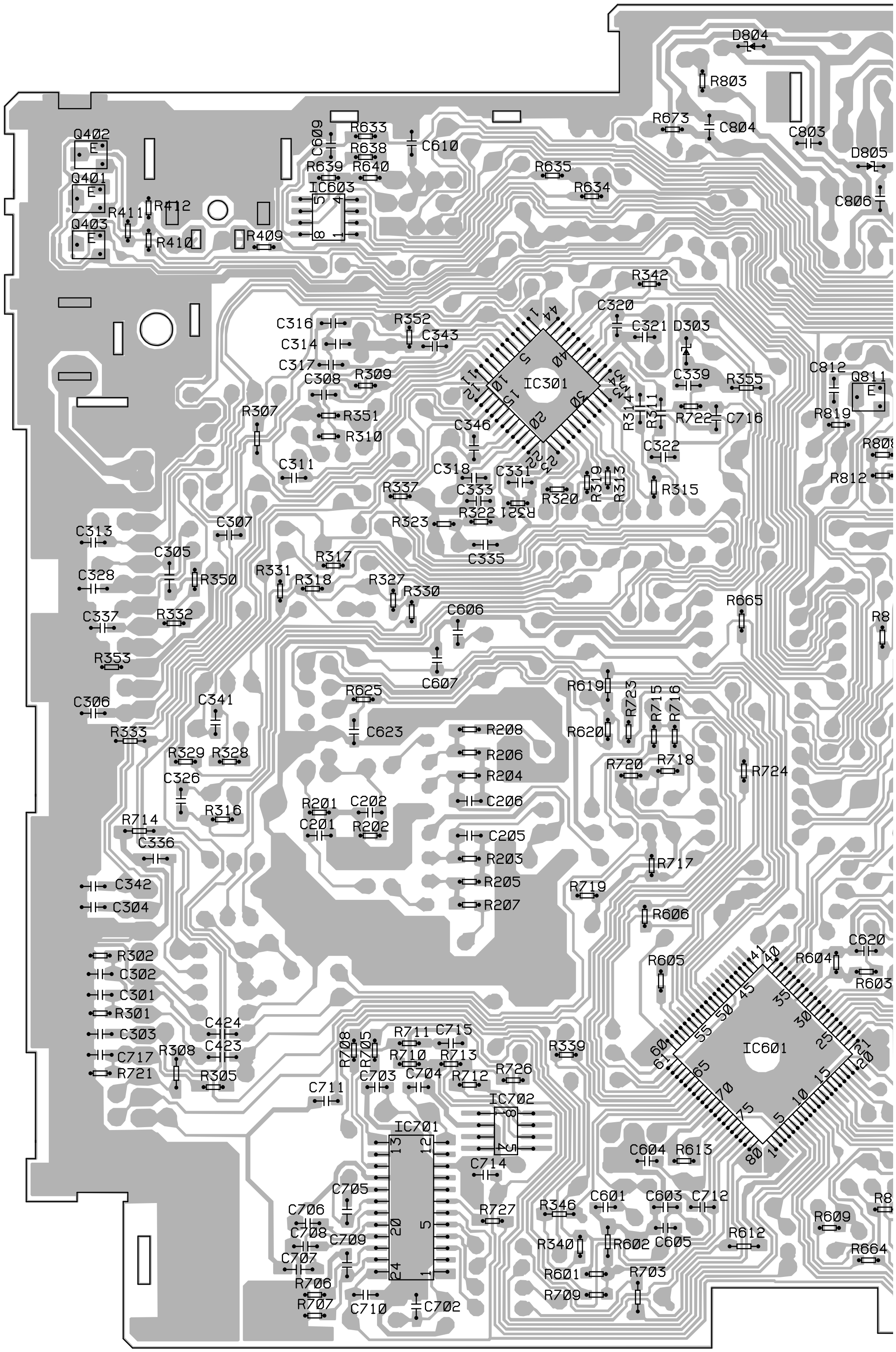
C CN901

SIDE A

A B C D

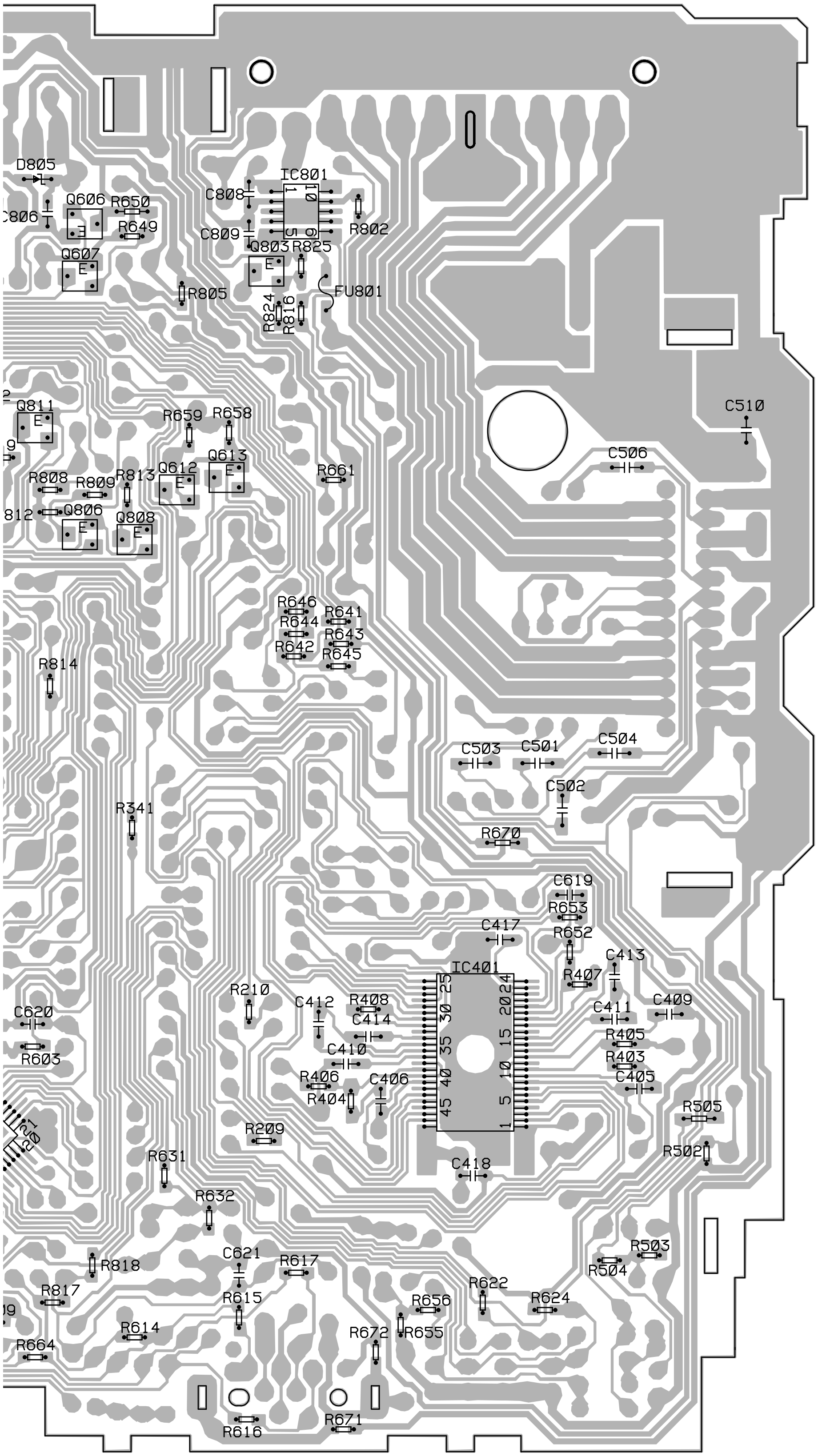


A TUNER AMP UNIT



SIDE B

A



IC, Q

Q402

IC801 Q606
Q401 IC603

Q403
Q607 Q803

Q811
IC301

B

Q613
Q612

Q806 Q808

C

IC401

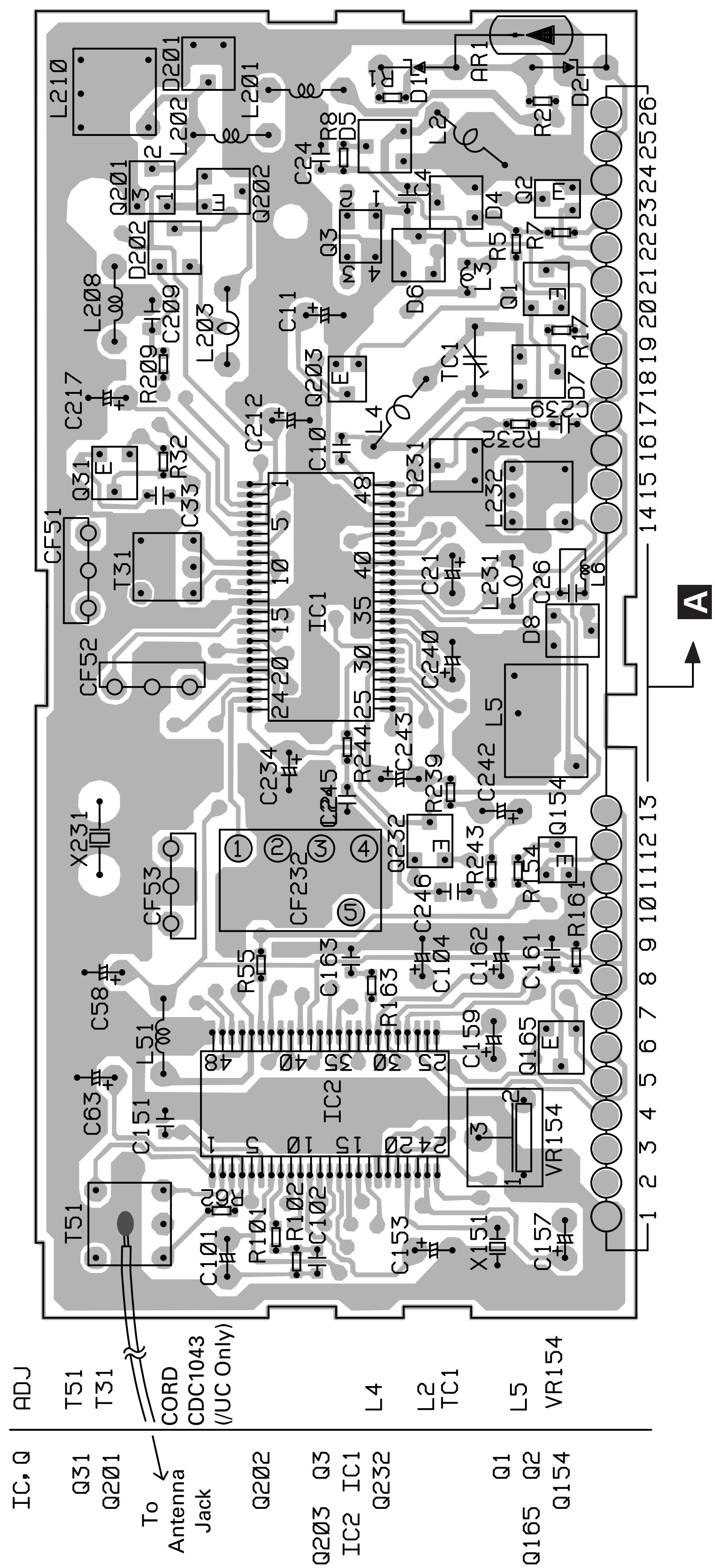
IC601

IC702
IC701

D

4.2 FM/AM TUNER UNIT

SIDE A

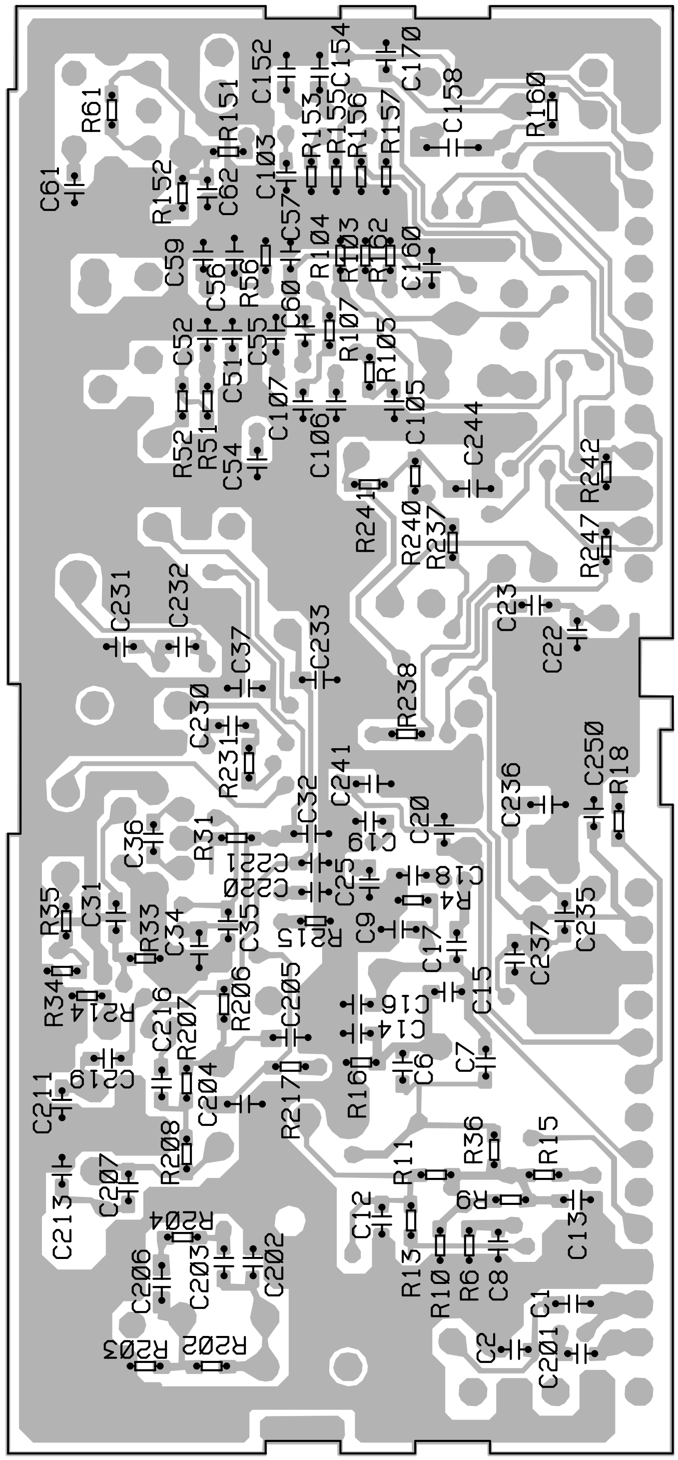


B FM/AM TUNER UNIT

1 2 3 4

SIDE B

A



B

C

D

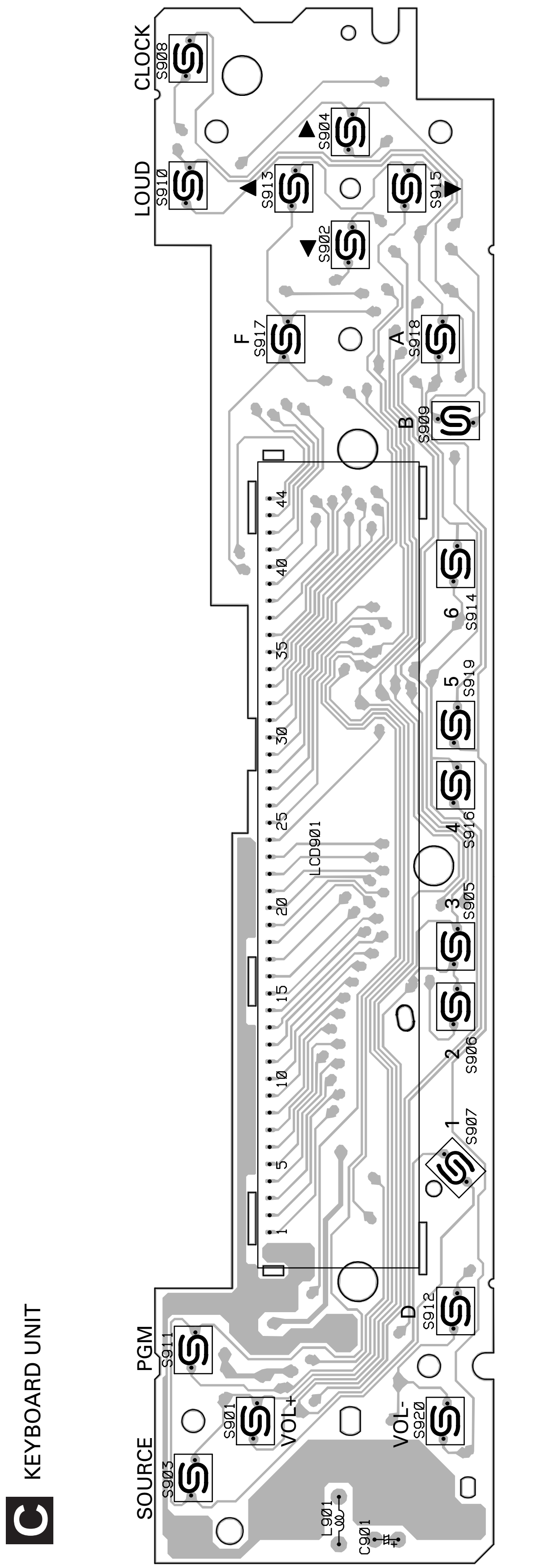
B FM/AM TUNER UNIT

B

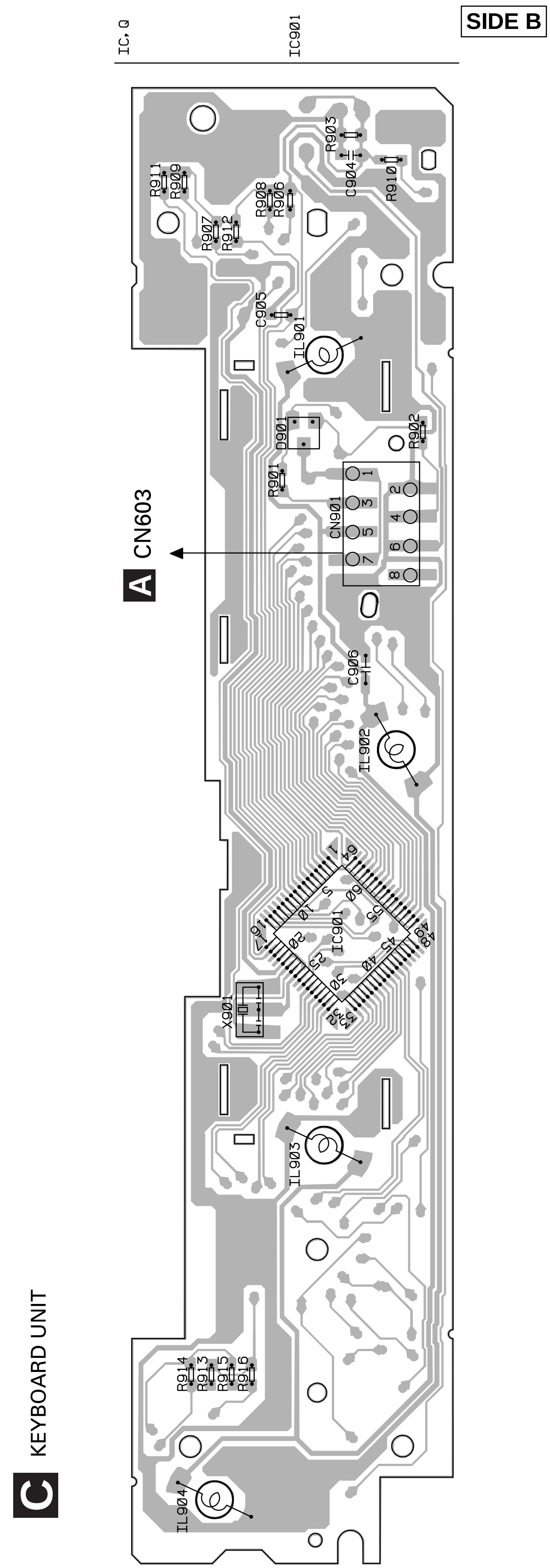
1 2 3 4

4.3 KEYBOARD UNIT

SIDE A



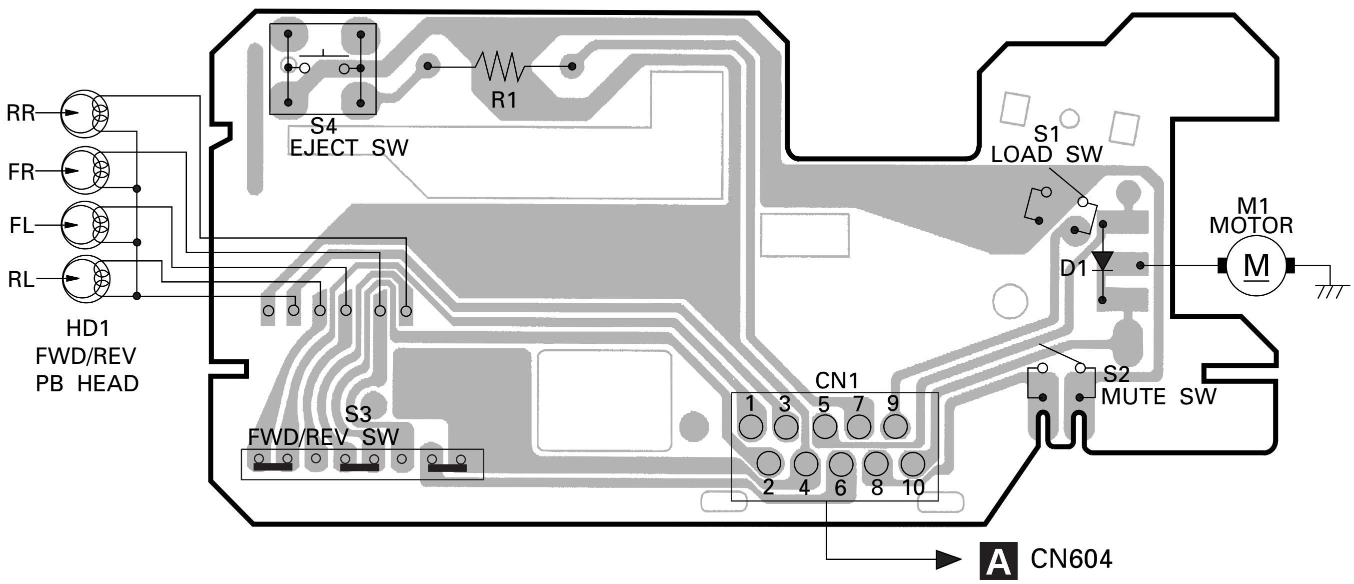
SIDE B



C

4.4 CASSETTE MECHANISM ASSY

D CASSETTE PCB



5. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

  Chip Resistor

  RS1/○S○○○J,RS1/○○S○○○J

  Chip Capacitor (except for CQS.....)

  CKS....., CCS....., CSZS.....

A
Unit Number : CWM6276 (KEH-P2800/X1M/UC)
Unit Number : CWM6349 (KEH-P3850/X1M/ES)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.===Part Name			Part No.
IC	201	IC	LA3161P
IC	301	IC	PM2006A
IC	401	IC	SN761029DL
IC	501	IC	TDA7384
IC	601	IC	PE5015A
IC	602	IC	S-80734AN
IC	603	IC	CA0008AM
IC	801	IC	TPD1018F
Q	301	Transistor	2SC1740S
Q	401	Transistor	DTC143TK
Q	402	Transistor	DTC143TK
Q	403	Transistor	DTA124EK
Q	501	Transistor	DTC124ES
Q	502	Transistor	DTC124ES
Q	601	Transistor	DTC143TS
Q	602	Transistor	DTC124ES
Q	603	Transistor	2SC1740S
Q	606	Transistor	DTC114EK
Q	607	Transistor	2SA1037K
Q	611	Transistor	2SC1740S
Q	612	Transistor	2SC2412K
Q	613	Transistor	2SC2412K
Q	801	Transistor	2SD2037
Q	802	Transistor	2SB1243
Q	803	Transistor	2SC2412K
Q	804	Transistor	2SD2396
Q	805	Transistor	2SA1048
Q	806	Transistor	2SC2412K
Q	807	Transistor	2SA1674
Q	808	Transistor	2SC2412K
Q	809	Transistor	2SA933S
Q	810	Transistor	2SB1242
Q	811	Transistor	DTC143TK
D	201	Diode	1SS270
D	301	Diode	1SS270
D	302	Diode	1SS270
D	601	Diode	1SS270
D	602	Diode	HZS7L(A1)
D	603	Diode	1SS270
D	604	Diode	1SS270
D	605	Diode	1SS270
D	606	Diode	1SS270
D	607	Diode	1SS270
D	608	Diode	1SS270
D	609	Diode	1SS270
D	610	Diode	1SS270
D	611	Diode	1SS270
D	612	Diode	HZS9L(A2)
D	613	Diode	HZS7L(C3)
D	614	Diode	HZS7L(A1)

=====Circuit Symbol and No.===Part Name			Part No.
D	615	Diode	1SS270
D	616	Diode	1SS270
D	801	Diode	1SR139-400
D	802	Diode	1SR139-400
D	803	Diode	1SR139-400
D	804	Diode	MA8056(H)
D	805	Diode	MA8091(M)
D	806	Diode	1SR139-400
D	807	Diode	1SR139-400
L	301	Ferri-Inductor	LAU101K
L	302	Ferri-Inductor	LAU2R2K
L	601	Ferri-Inductor	LAU101K
L	602	Ferri-Inductor	LAU101K
L	603	Ferri-Inductor	LAU101K
L	604	Ferri-Inductor	LAU2R2K
L	951	Choke Coil 600mH	CTH1168
X	301	Crystal Resonator 7.200MHz	CSS1379
X	601	Ceramic Resonator 4.194MHz	CSS1047
FU	801	Fuse 2A	CEK1176
		FM/AM TunerUnit (KEH-P2800/X1M/UC)	CWE1467
		FM/AM TunerUnit (KEH-P3850/X1M/ES)	CWE1486

RESISTORS

R	201		RS1/10S273J
R	202		RS1/10S273J
R	203		RS1/10S104J
R	204		RS1/10S104J
R	205		RS1/10S472J
R	206		RS1/10S472J
R	207		RS1/10S470J
R	208		RS1/10S470J
R	209		RS1/10S273J
R	210		RS1/10S273J
R	301		RS1/10S152J
R	302		RS1/10S152J
R	305	(KEH-P3850/X1M/ES)	RS1/10S182J
R	306		RD1/4PU222J
R	307		RS1/8S222J
R	308		RS1/8S222J
R	309		RS1/10S102J
R	310	(KEH-P2800/X1M/UC)	RS1/10S0R0J
R	311		RS1/8S102J
R	312		RD1/4PU0R0J
R	314		RS1/8S392J
R	315		RS1/10S392J
R	316		RS1/10S152J
R	317		RS1/10S103J
R	318		RS1/10S0R0J
R	320		RS1/10S472J
R	321		RS1/10S472J
R	322		RS1/10S152J
R	323		RS1/10S472J
R	324		RD1/4PU102J

=====Circuit Symbol and No.===Part Name			Part No.
R	326		RD1/4PU0R0J
R	328		RS1/10S182J
R	332		RS1/10S103J
R	333		RS1/8S393J
R	334		RD1/4PU562J
R	335		RD1/4PU472J
R	336		RD1/4PU473J
R	338		RD1/4PU104J
R	339		RS1/10S473J
R	340		RS1/10S473J
R	341		RS1/10S681J
R	342		RS1/10S681J
R	343		RD1/4PU681J
R	344		RD1/4PU681J
R	345		RD1/4PU222J
R	346		RS1/8S472J
R	349		RD1/4PU102J
R	350	(KEH-P2800/X1M/UC)	LCTBR39K2125
		(KEH-P3850/X1M/ES)	RS1/10S510J
R	351		RS1/10S0R0J
R	352		RS1/10S0R0J
R	353		RS1/10S0R0J
R	354		RD1/4PU102J
R	355		RS1/8S0R0J
R	401		RD1/4PU0R0J
R	402		RD1/4PU0R0J
R	403		RS1/10S272J
R	404		RS1/10S272J
R	405		RS1/10S151J
R	406		RS1/10S151J
R	407		RS1/10S0R0J
R	408		RS1/10S0R0J
R	409		RS1/10S821J
R	410		RS1/10S821J
R	411		RS1/10S223J
R	412		RS1/10S223J
R	501		RD1/4PU103J
R	502		RS1/10S153J
R	503		RS1/10S221J
R	504		RS1/10S101J
R	505		RS1/8S103J
R	601	(KEH-P3850/X1M/ES)	RS1/10S473J
R	602	(KEH-P2800/X1M/UC)	RS1/8S473J
		(KEH-P3850/X1M/ES)	RS1/8S223J
R	606		RS1/10S0R0J
R	608		RD1/4PU221J
R	613		RS1/10S473J
R	614		RS1/10S473J
R	615		RS1/10S222J
R	616		RS1/10S222J
R	617		RS1/10S222J
R	618		RD1/4PU103J
R	619		RS1/8S473J
R	620		RS1/10S473J
R	621		RD1/4PU104J
R	622		RS1/10S473J
R	623		RD1/4PU473J
R	624		RS1/10S332J
R	625		RS1/10S102J
R	630		RD1/4PU152J
R	631		RS1/10S102J
R	632		RS1/10S124J
R	633		RS1/10S102J
R	634		RS1/10S102J
R	635		RS1/10S102J

=====Circuit Symbol and No.===Part Name			Part No.
R	636		RD1/4PU473J
R	637		RD1/4PU473J
R	638		RS1/10S101J
R	639		RS1/10S101J
R	640		RS1/10S620J
R	641		RS1/10S221J
R	642		RS1/10S221J
R	643		RS1/10S223J
R	644		RS1/10S223J
R	645		RS1/10S102J
R	646		RS1/10S102J
R	649		RS1/10S223J
R	650		RS1/8S472J
R	651		RD1/4PU222J
R	655		RS1/10S223J
R	656		RS1/10S103J
R	657		RD1/4PU472J
R	658		RS1/10S473J
R	659		RS1/10S223J
R	660		RD1/4PU473J
R	661		RS1/10S473J
R	662		RD1/4PU223J
R	663		RD1/4PU473J
R	664		RS1/10S222J
R	665		RS1/10S102J
R	667		RD1/4PU103J
R	670		RS1/8S0R0J
R	673		RS1/10S0R0J
R	801		RD1/4PU102J
R	802		RS1/10S472J
R	803		RS1/10S101J
R	804		RD1/4PU332J
R	805		RS1/10S103J
R	806		RD1/4PU102J
R	807		RD1/4PU122J
R	808		RS1/10S103J
R	809		RS1/10S102J
R	810		RD1/4PU473J
R	812		RS1/10S103J
R	813		RS1/10S102J
R	814		RS1/10S473J
R	816		RS1/10S472J
R	817		RS1/10S223J
R	818		RS1/10S222J
R	819		RS1/10S472J
R	820		RD1/4PU102J
R	821		RD1/4PU1R5J
R	822		RD1/4PU1R5J
R	823		RD1/4PU1R0J
R	824		RS1/10S103J
R	825		RS1/10S103J
CAPACITORS			
C	201		CKSQYB681K50
C	202		CKSQYB681K50
C	203		CEJA2R2M50
C	204		CEJA2R2M50
C	205		CKSQYB333K50
C	206		CKSQYB333K50
C	207		CEJA101M10
C	208		CEJA101M10
C	209		CEJA1R0M50
C	210		CEJA1R0M50
C	211		CEJA101M10
C	301		CKSQYB473K50
C	302		CKSQYB473K50
C	303		CKSQYB223K50
C	304		CCSQCH101J50

=====Circuit Symbol and No.===Part Name			Part No.
C	307		CKSQYB103K50
C	308		CCSQCH101J50
C	309	(KEH-P3850/X1M/ES)	CKPUYY103M16
C	311		CCSQCH101J50
C	313		CKSQYB223K50
C	314		CKSQYB473K50
C	315		CEJA220M6R3
C	316		CKSQYB103K50
C	317		CKSQYB103K50
C	318		CKSQYB102K50
C	319		CEJA220M10
C	320		CCSQCH150J50
C	321		CCSQCH150J50
C	325	4.7μF/16V	CCH1250
C	326		CKSQYB103K50
C	328		CKLSR473K16
C	331		CKSQYB104K16
C	332		CEJA220M6R3
C	333		CKSQYB103K50
C	334		CEJA220M6R3
C	335		CKSQYB103K50
C	336		CKSQYB223K50
C	337		CKSQYB103K50
C	340		CFTLA154J50
C	341		CKSQYB103K50
C	342		CKSQYB473K50
C	343		CKSQYB102K50
C	401		CEJA2R2M50
C	402		CEJA2R2M50
C	403		CEJA100M16
C	404		CEJA100M16
C	405		CKSQYB822K50
C	406		CKSQYB822K50
C	407		CEJA1R0M50
C	408		CEJA1R0M50
C	409		CKSQYB183K50
C	410		CKSQYB183K50
C	411		CKSQYB104K16
C	412		CKSQYB104K16
C	413		CKSQYB104K16
C	414		CKSQYB104K16
C	415		CEJA100M16
C	416		CEJA2R2M50
C	417		CKSQYB473K50
C	418		CKSQYB104K16
C	419		CEJA470M10
C	420		CEJA2R2M50
C	421		CEJA2R2M50
C	422		CEJA2R2M50
C	501		CKSYB224K16
C	502		CKSYB224K16
C	503		CKSYB224K16
C	504		CKSYB224K16
C	505		CEJA1R0M50
C	506		CKSYB105K16
C	507		CEJA100M16
C	508		CEJA330M10
C	510		CKSQYB104K16
C	601		CCSQCH101J50
C	602		CEJA4R7M35
C	604		CCSQCH101J50
C	606		CKSQYB104K16
C	607		CKSQYB224K16
C	608		CEJA2R2M50
C	609		CKSQYB102K50
C	610		CKSQYB104K16
C	611		CEJA1R0M50
C	612		CEJA1R0M50
C	613		CEJA1R0M50
C	614		CEJA1R0M50
C	620		CCSQCH101J50
C	621		CCSQCH101J50
C	623		CKSQYB102K50
C	801	3300μF/16V	CCH1018
C	802	470μF/16V	CCH1183
C	803		CKSQYB102K50
C	804		CKSQYB473K50
C	805		CEJA101M10
C	806		CKSQYB103K50
C	807	330μF/10V	CCH1181
C	808		CKSQYB103K50
C	809		CKSQYB104K16
C	811	100μF/16V	CCH1179

C Unit Number : CWM6273
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6293A
D	901	Diode	STZ6R2N
L	901	Ferri-Inductor	LAU101K
X	901	Ceramic Resonator 4.97MHz	CSS1422
IL	901	Lamp 14V 40mA	CEL1547
IL	902	Lamp 14V 40mA	CEL1547
IL	903	Lamp 14V 40mA	CEL1547
IL	904	Lamp 14V 40mA	CEL1547
LCD	901	LCD	CAW1513

RESISTORS

R	901		RS1/10S222J
R	902		RS1/10S222J
R	903		RS1/10S472J
R	906		RS1/10S473J
R	907		RS1/10S473J
R	908		RS1/10S473J
R	909		RS1/10S473J
R	910		RS1/10S473J
R	911		RS1/10S473J
R	912		RS1/10S473J
R	913		RS1/10S0R0J
R	915		RS1/10S0R0J

CAPACITORS

C	901		CEAL100M16
C	904		CKSQYB104K16
C	905		CKSQYB102K50
C	906		CCSCH101J50

B Unit Number : CWE1467 (KEH-P2800/X1M/UC)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS

=====Circuit Symbol and No.		===Part Name	Part No.
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1117
T	51	Coil	CTC1159
CF	51	Ceramic Filter	CTF1441
CF	52	Ceramic Filter	CTF1441
CF	53	Ceramic Filter	CTF1441
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213
RESISTORS			
R	1		RS1/16S225J
R	2		RS1/16S225J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S273J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J

=====Circuit Symbol and No.		===Part Name	Part No.
R	163		RS1/16S223J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S183J
R	244		RS1/16S392J
R	247		RS1/16S123J
CAPACITORS			
C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	15		CCSRCH6R0D50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	26		CCSRCH101J50
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	60		CKSRYB102K50
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR22M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25

=====Circuit Symbol and No.===Part Name			Part No.
C	106		CCSRCH151J50
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB333K16
C	246		CKSQYB473K16
C	250		CCSRCH471J50

B Unit Number : CWE1486 (KEH-P3850/X1M/ES)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412K
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412K
Q	201	FET	2SK932
Q	202	Transistor	2SC2412K
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1

=====Circuit Symbol and No.===Part Name			Part No.
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1133
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1133
L	5	Coil	CTC1132
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1117
T	51	Coil	CTC1159
CF	51	Ceramic Filter	CTF1441
CF	52	Ceramic Filter	CTF1441
CF	53	Ceramic Filter	CTF1441
CF	232	Ceramic Filter	CTF1348
X	151	Radiator 918.5Hz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

R	1		RS1/16S225J
R	2		RS1/16S225J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S273J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J

=====Circuit Symbol and No.		===Part Name	Part No.
R	163		RS1/16S223J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S183J
R	244		RS1/16S392J
R	247		RS1/16S123J

CAPACITORS

C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	15		CCSRCH6R0D50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	60		CKSRYB102K50
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR22M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25
C	106		CCSRCH151J50

=====Circuit Symbol and No.		===Part Name	Part No.
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB333K16
C	246		CKSQYB473K16
C	250		CCSRCH471J50

D Unit Number :
Unit Name : Cassette PCB

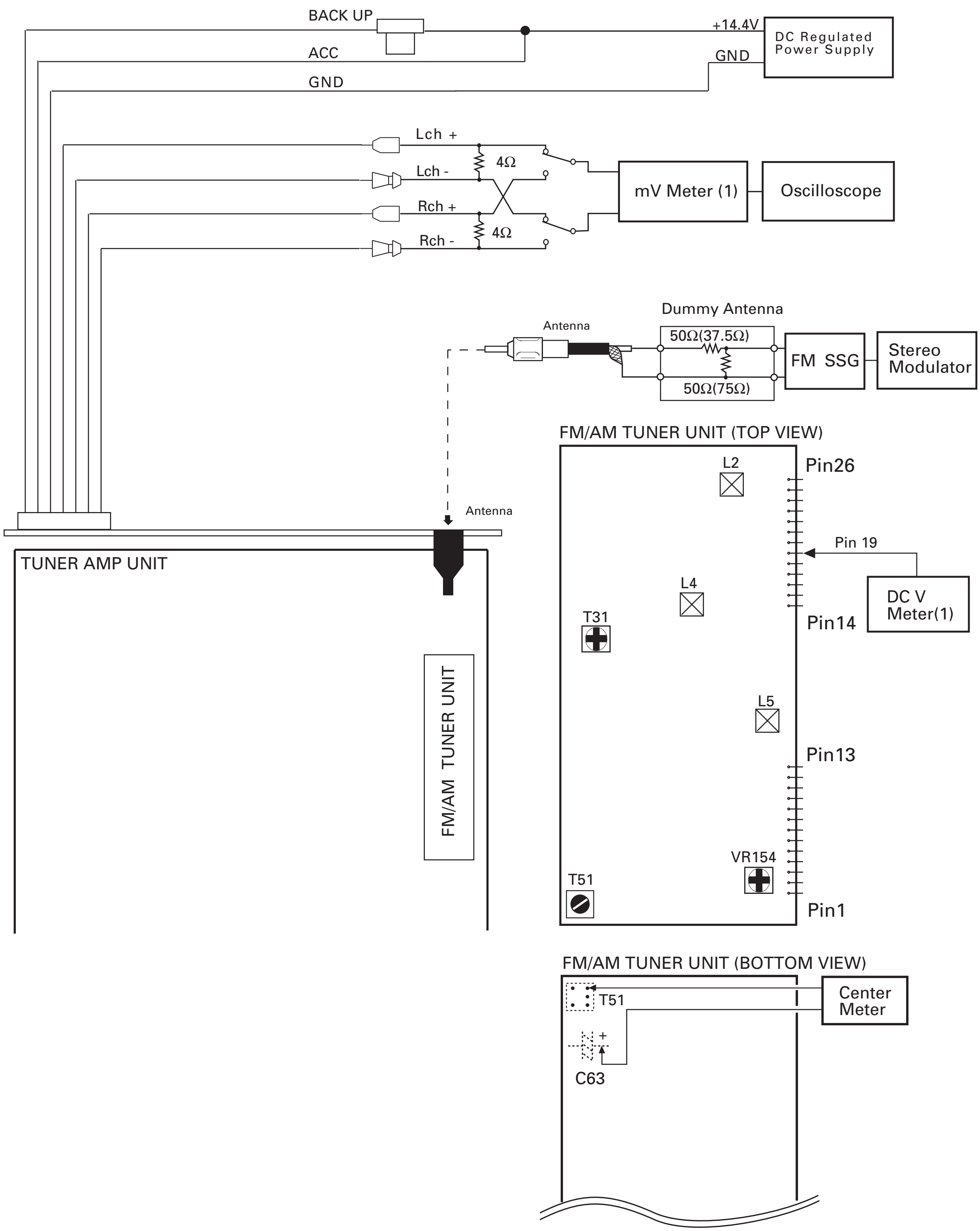
S	1	Switch(Load)	ESN1016
S	2	Switch(Mute)	ESN1017
S	3	Switch(FWD/REV)	ESH1006
S	4	Switch(Eject)	ESG1006
R	1		RD1/4HM472J

Miscellaneous Parts List

M	1	Motor Unit	EXA1467
HD	1	Head Assy	EXA1466
FU	951	Fuse 10A	CEK1136

6. ADJUSTMENT

● Connection Diagram



FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.) or 400Hz 100%(75kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

FM ADJUSTMENT(UC MODEL)

		FM SSG		Displayed	Adjustment	Adjustment Method
	No.	Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	107.9	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

FM ADJUSTMENT(ES MODEL)

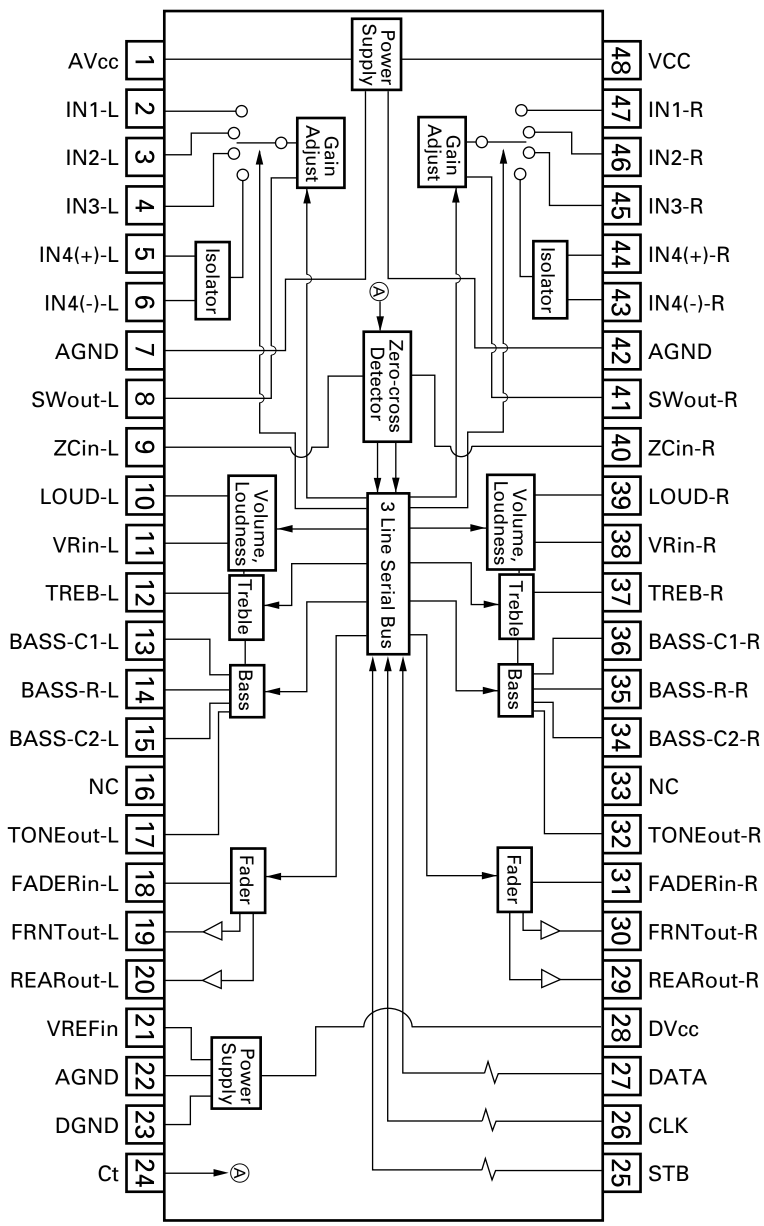
		FM SSG		Displayed	Adjustment	Adjustment Method
	No.	Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	2	98.1 M	60—100	98.1	T51	Center Meter : 0
ANT Coil	3	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	4	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	5	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	6	98.1 S	40	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

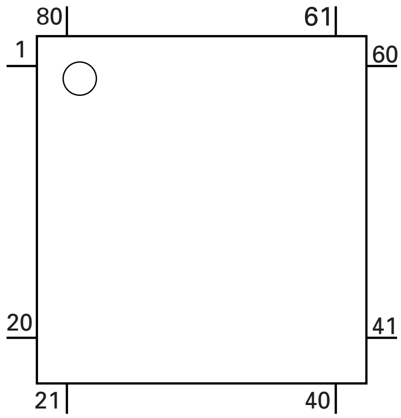
SN761029DL



● **Pin Functions(PE5015A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1,2	NC			Not used
3	ADPW			A/D converter power
4	GND			GND
5,6	NC			Not used
7	AVREF1			(Connect to VDD)
8	KYDT	I		Key data input
9	DPDT	O	C	Display data output
10	$\overline{\text{DSENS}}$	I		Grille detach sense input
11	TUNPDI	I		PLL IC data input
12	TUNPDO	O	C	PLL IC data output
13	TUNPCK	O	C	PLL IC clock output
14	TUNPCE	O	C	PLL IC chip enable output
15,16	NC			Not used
17	TX	O	C	IP BUS data output
18–21	NC			Not used
22	$\overline{\text{SWVDD}}$	O	C	Grille power supply control output
23	NC			Not used
24	VDT	O	C	Data output for electronic volume
25	VCK	O	C	Clock output for electronic volume
26	VST	O	C	Strobe pulse output for electronic volume
27	SYSPW	O	C	System power supply control output
28	$\overline{\text{MUTE}}$	O	C	System mute output
29	DMINH	O	C	Mechanism mute cancel output
30–32	NC			Not used
33	GND			GND
34–37	NC			Not used
38	FM	O	C	FM power control output
39	AM	O	C	AM power control output
40	ASENBO	O	C	Slave power supply control output
41–49	NC			Not used
50	$\overline{\text{EJECT}}$	I		Eject key input
51	$\overline{\text{TAPLD}}$	I		Tape loading input
52	MECPW	O	C	Cassette mechanism power output
53	$\overline{\text{MCMUT}}$	I		Mechanism mute input
54	NOR/$\overline{\text{REV}}$	I		Normal reverse input
55-59	NC			Not used
60	$\overline{\text{RESET}}$	I		Reset input
61	RX	I		IP BUS data input
62	NC			Not used
63	CLKIN	I		Clock input
64	$\overline{\text{ASENS}}$	I		ACC power sense input
65	$\overline{\text{BSENS}}$	I		Back up power sense input
66	SD	I		SD input
67	$\overline{\text{ST}}$	I		FM stereo input
68	VDD			Power supply
69	X2			Oscillator output
70	X1			Oscillator input
71	GND			GND
72	NC			Not used
73	TESTIN	I		Test program mode input
74	AVDD			A/D converter analog power supply (VDD)
75	AVREF0			(A/D converter standard voltage input)
76	SL	I		Signal level input
77	MODEL	I		Model select input
78–80	NC			Not used

*PE5015A



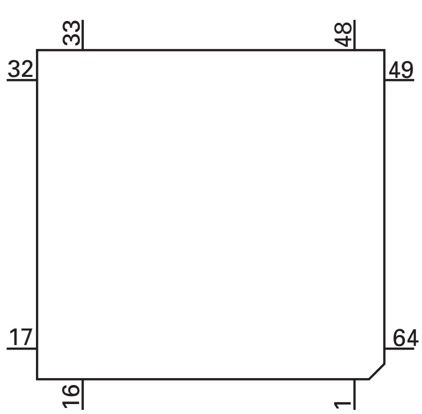
Format	Meaning
C	C MOS

IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

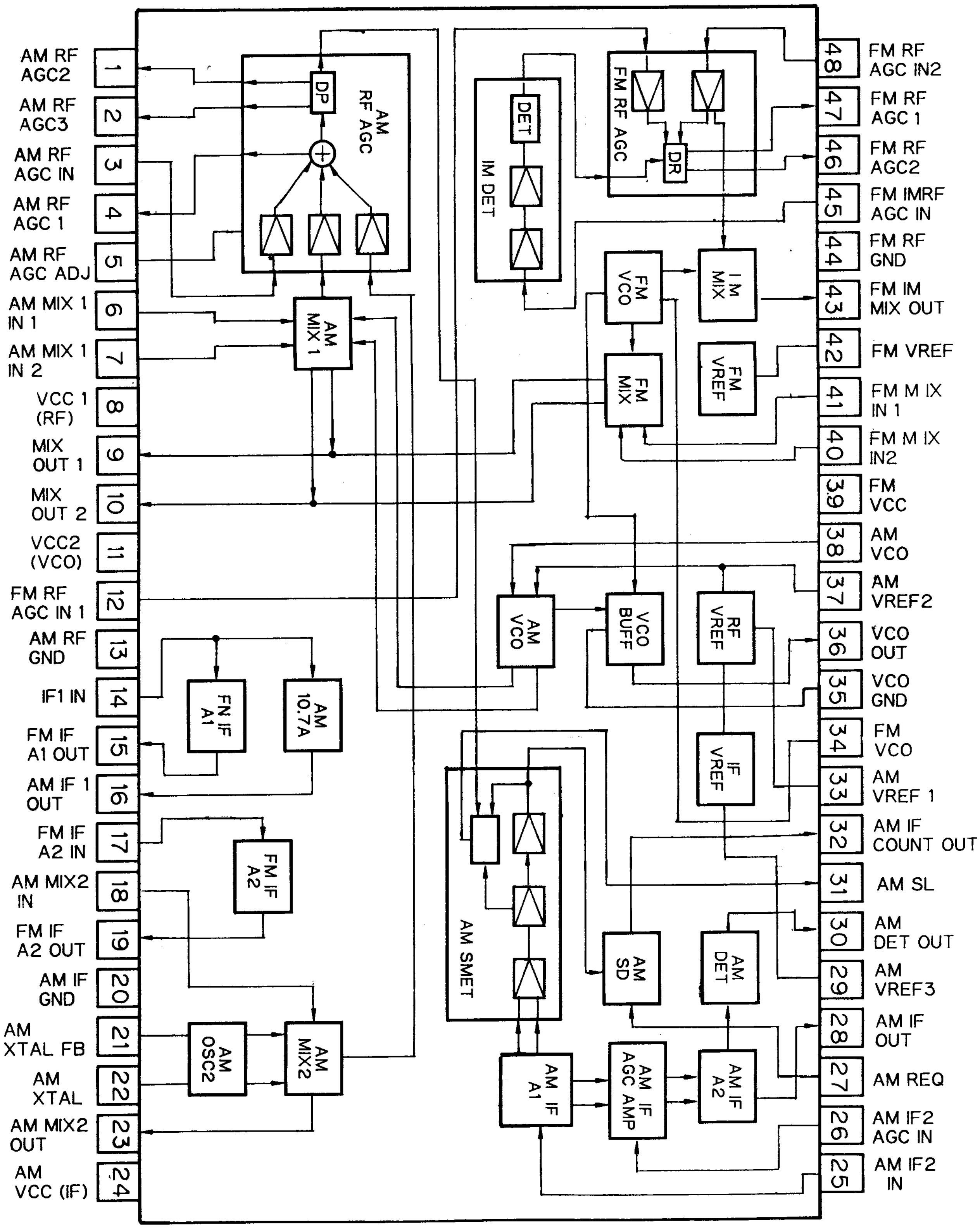
● Pin Functions (PD6293A)

Pin No.	Pin Name	I/O	Function and Operation
1–5	SEG4-0	O	LCD segment output 4-0
6–8	COM1-3	O	Common driver output 1-3
9	COM0	O	Common driver output 0
10	LCDB		LCD bias power supply
11–14	KS3-0	O	Key strobe output 3-0
15,16	KDT0,1	I	Key data input 0,1
17	REM	I	Remote control reception
18	DPDT	I	Display data input
19	NC		Not used
20	KYDT	O	Key data output
21	MODA		GND
22	X0		Crystal oscillator connection pin
23	X1		Crystal oscillator connection pin
24	VSS		GND
25,26	KDT2,3	I	Key data input 2,3
27,28	KST5,4	O	Key strobe output 5,4
29–55	SEG39-13	O	LCD segment output 39-13
56	VCC		5V
57–64	SEG12-5	O	LCD segment output 12-5

*PD6293A

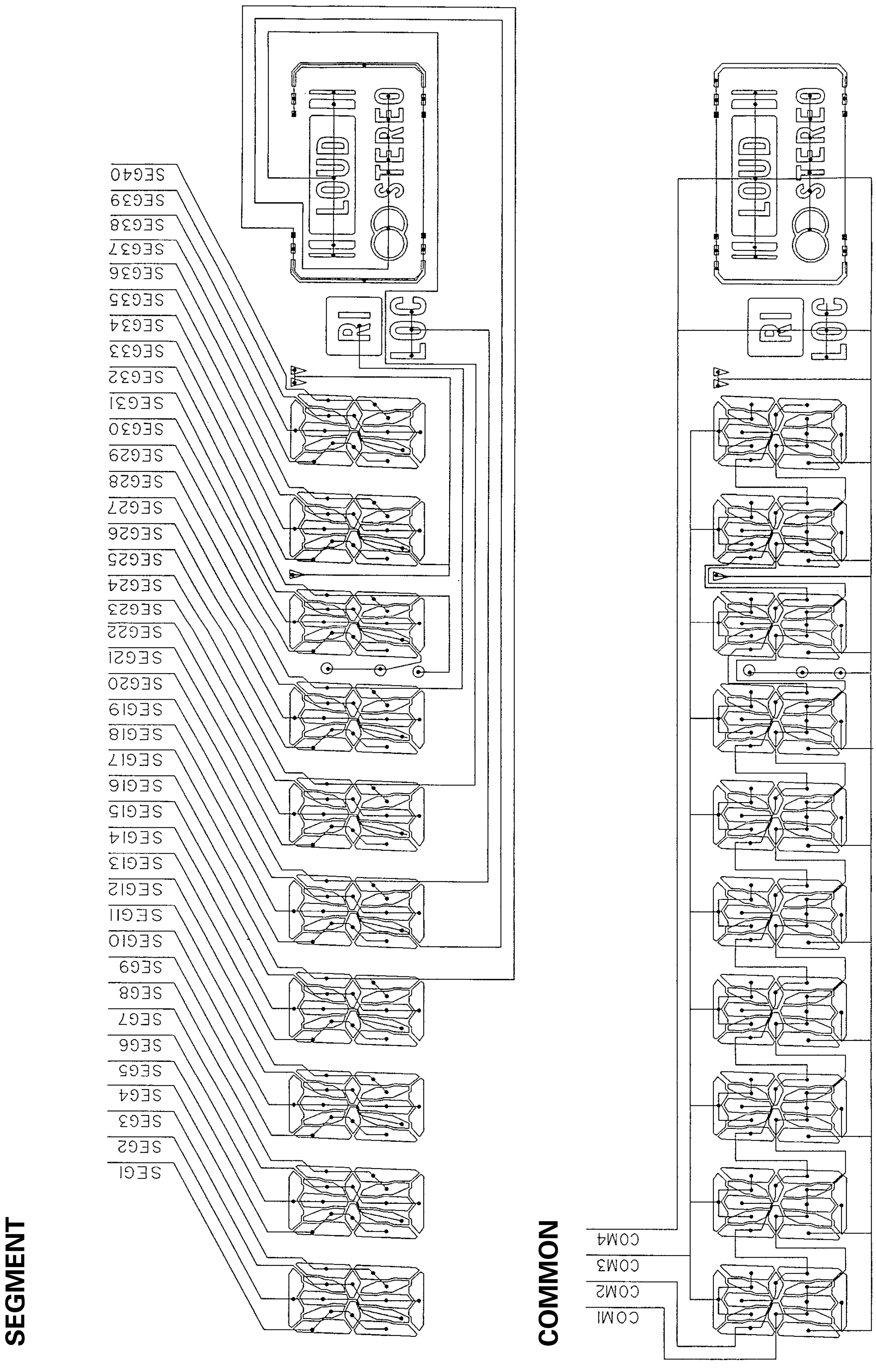


PA4023B


AM RF AGC2
AM RF AGC3
AM RF AGC IN
AM RF AGC 1
AM RF AGC ADJ
AM MIX 1 IN 1
AM MIX 1 IN 2
VCC 1 (RF)
MIX OUT 1
MIX OUT 2
VCC2 (VCO)
FM RF AGC IN 1
AM RF GND
IF1 IN
FM IF A1 OUT
AM IF 1 OUT
FM IF A2 IN
AM MIX2 IN
FM IF A2 OUT
AM IF GND
AM XTAL FB
AM XTAL
AM MIX2 OUT
AM VCC (IF)
FM RF AGC IN2
FM RF AGC 1
FM RF AGC2
FM IMRF AGC IN
FM RF GND
FM IM MIX OUT
FM VREF
FM M IX IN 1
FM M IX IN2
FM VCC
AM VCO
AM VREF2
VCO OUT
VCO GND
FM VCO
AM VREF 1
AM IF COUNT OUT
AM SL
AM DET OUT
AM VREF3
AM IF OUT
AM REQ
AM IF2 AGC IN
AM IF2 IN
AM RF AGC
DP
FM RF AGC
DR
IM DET
DET
AM MIX 1
FM VCO
I M MIX
FM MIX
FM VREF
AM VCO
VCO BUFF
RF VREF
FN IF A1
AM 10.7A
IF VREF
FM IF A2
AM SMET
AM SD
AM DET
AM OSC2
AM MIX2
AM IF A1
AM IF AGC AMP
AM IF A2

7.1.2 DISPLAY

● **CAW1513**



7.2 DISASSEMBLY

● Removing the Case(not shown)

1. Remove the three screws.
2. Remove the Case.

● Removing the Cassette Mechanism Assy (not shown)

1. Remove the four screws.
2. Disconnect the connector, and then removing the Cassette Mechanism Assy.

● Removing the Panel Unit(Fig.1)

1 Disengage the stopper at two locations indicated

2 Remove the Panel Unit.

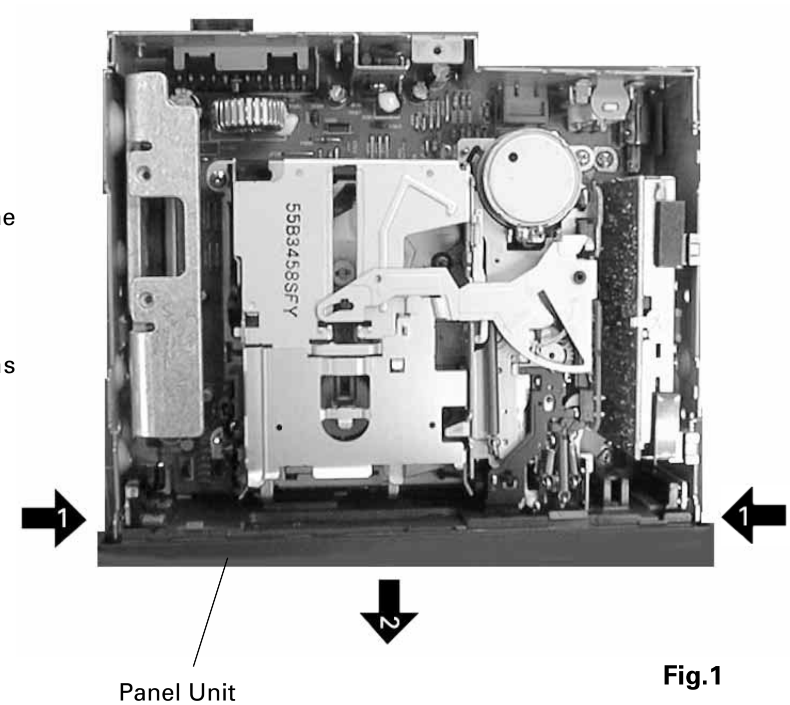


Fig.1

● Removing the Tuner Amp Unit(Fig.2)

1 Removing the two screws.

2 Removing the three screws.

3 Removing the screw.

4 Unbend the tabs at four locations indicated by arrow until straight.
Remove the Tuner Amp Unit.

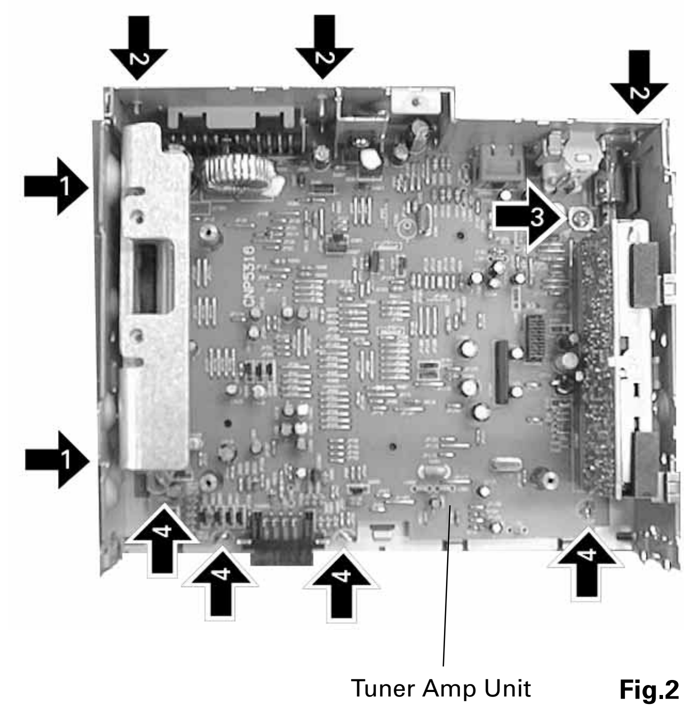
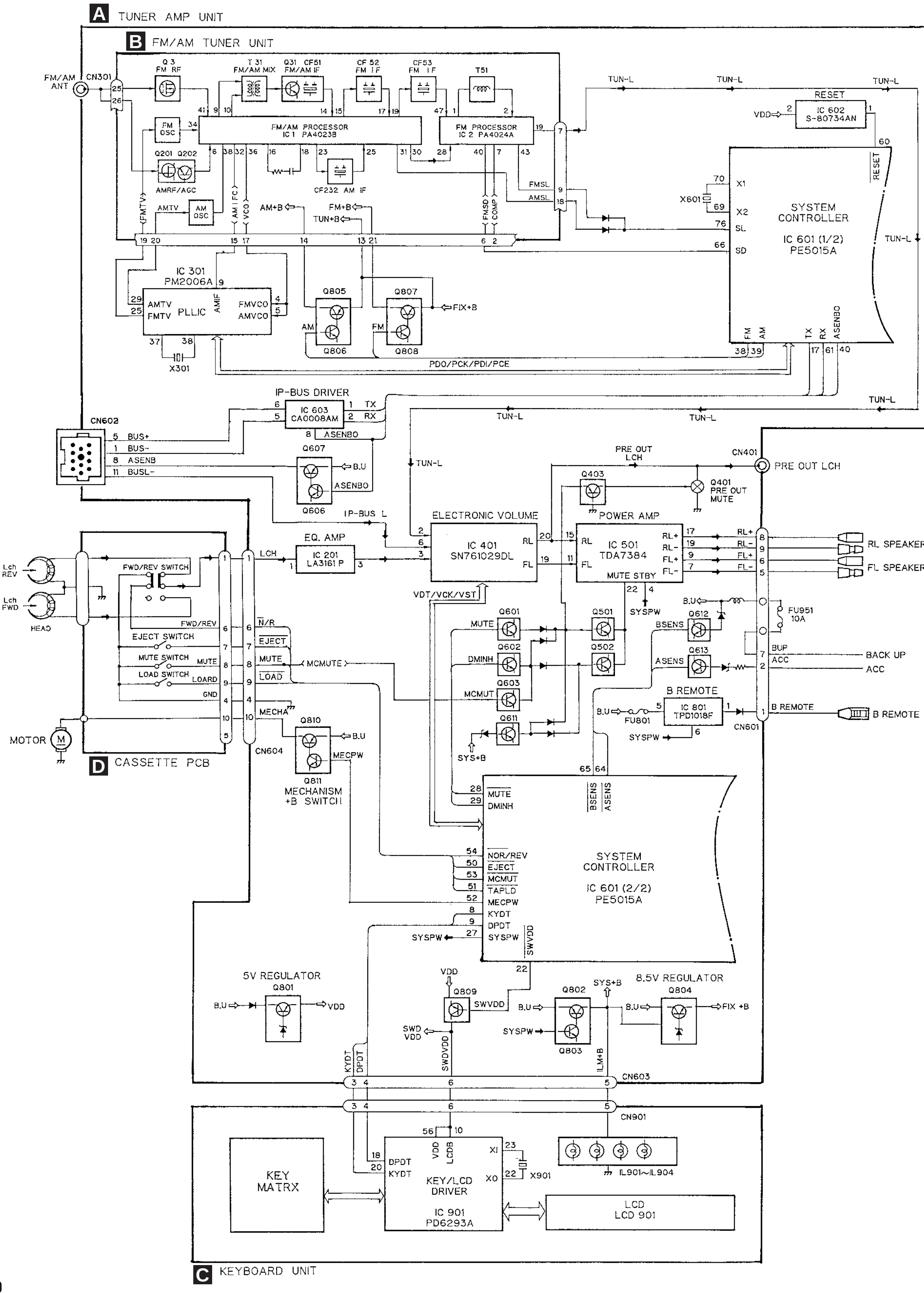


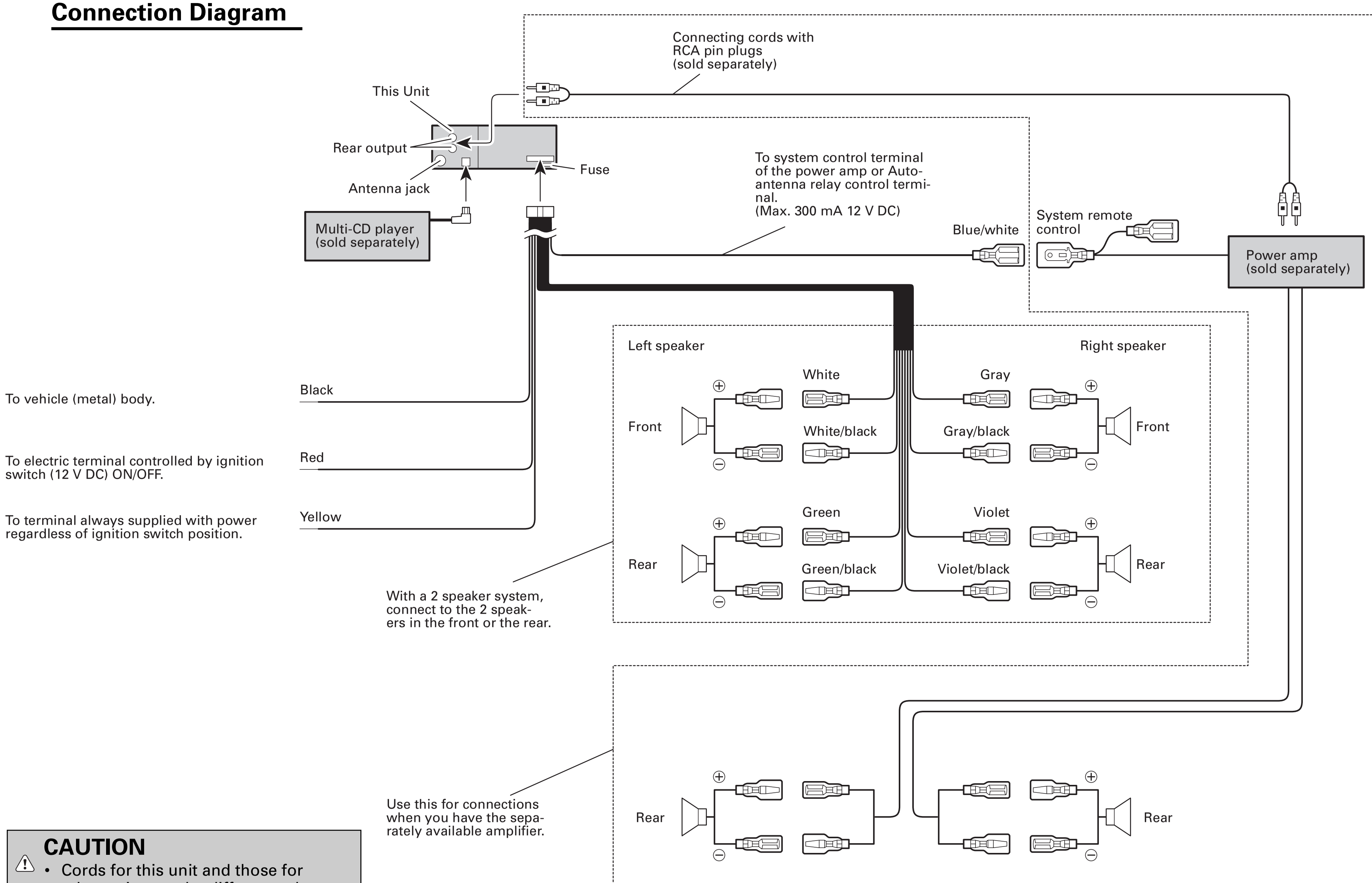
Fig.2

7.3 EXPLANATION
7.3.1 BLOCK DIAGRAM
● KEH-P2800/X1M/UC



8. OPERATIONS AND SPECIFICATIONS

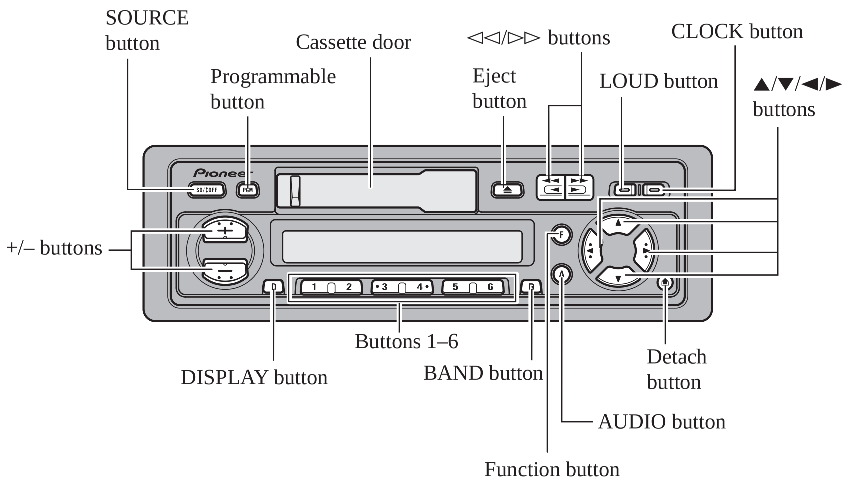
Connection Diagram



CAUTION

- Cords for this unit and those for other units may be different colors even if they have the same function. When connecting this unit to another unit, refer to the supplied Installation manuals of both units and connect cords that have the same function.

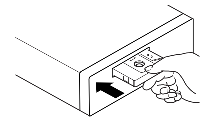
Key Finder

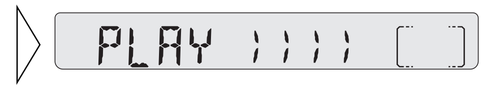


Using the Cassette Player

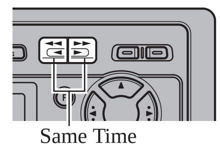
Basic Operation of Cassette Player

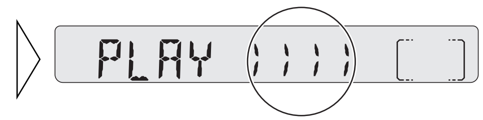
1. **Insert the cassette tape.**



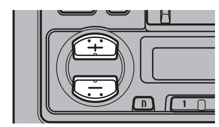


2. **Switch tape playback from side A to side B, or vice versa.**



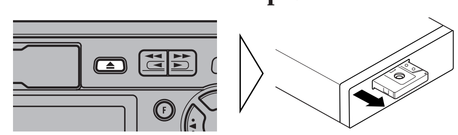


3. **Raise or lower the volume.**





4. **Remove the cassette tape.**

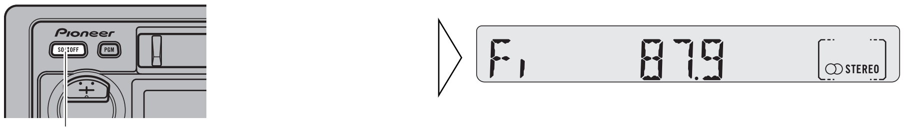


Note:
- The Tape function can be turned ON/OFF with the cassette tape remaining in this product.

Tuner Operation

Basic Operation of Tuner

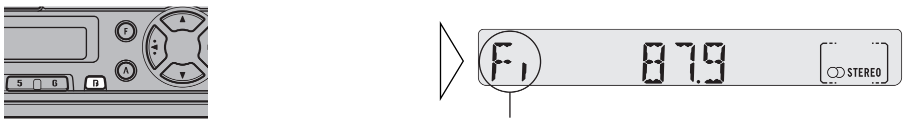
1. Select Tuner.



Each press
changes the Source ...

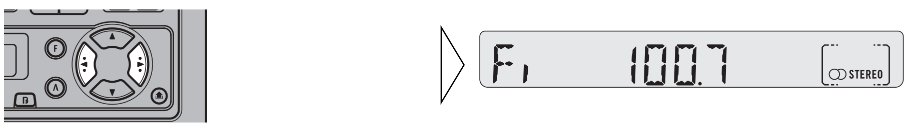
Frequency appears on the display.
("◯◯STEREO" indicator lights when a stereo station is selected.)

2. Select the desired band.



FI ➞ FII ➞ FIII ➞ AM

3. Tune the receiver to a higher or lower frequency.



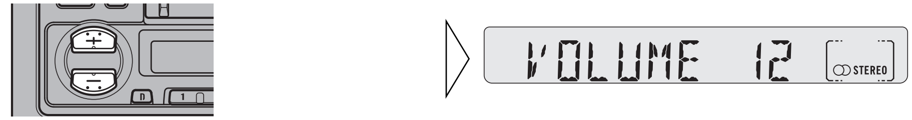
This product's tuner lets you select the tuning by changing the length of the time you press the button.

Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

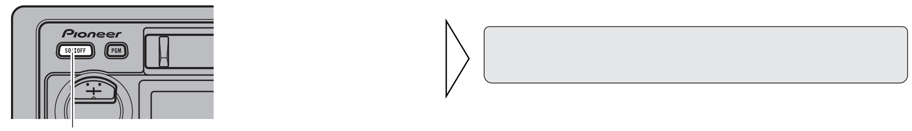
Note:
- To select a weak broadcasting station that cannot be tuned in with the Seek Tuning function, tune in with Manual Tuning.

Tuner Operation

4. Raise or lower the volume.



5. Turn the source OFF.

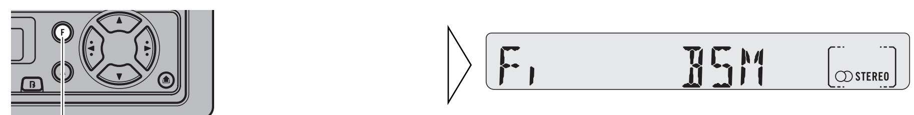


Hold for 1 second

Entering the Function Menu

In this menu you can select tuner functions.

- **Select the desired mode in Function Menu.**



Each press
changes the Mode ...

Each press of the Function button selects the mode in the following order:
BSM ➞ LOCAL

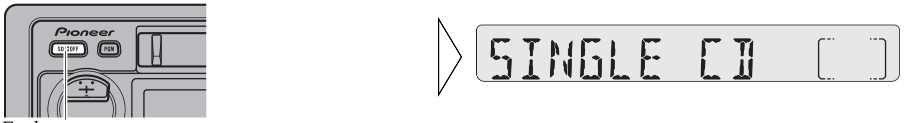
Note:
- You can cancel the Function Menu by pressing the BAND button.
- After selecting the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

Using CD Player (one disc only)

This product can control a CD player (one disc only).

Basic Operation of CD Player

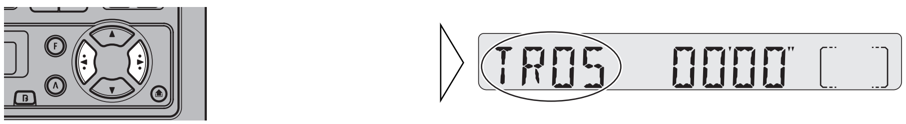
1. **Select the CD player source.**



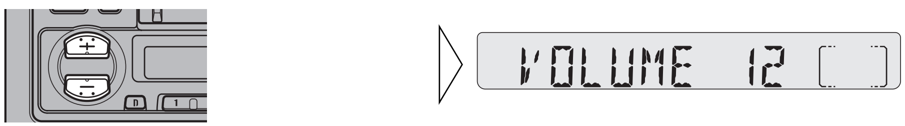
Each press
changes the Source ...

Note:
- The CD player is selected only when a CD is loaded.
- If the CD player cannot operate properly, an error message such as "ERROR 14" is displayed. Refer to the CD player owner's manual.

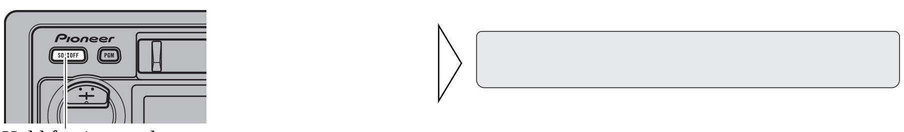
2. **Reverse or advance track by track.**



3. **Raise or lower the volume.**



4. **Turn the source OFF.**



Hold for 1 second

Track Search and Fast-forward/Reverse

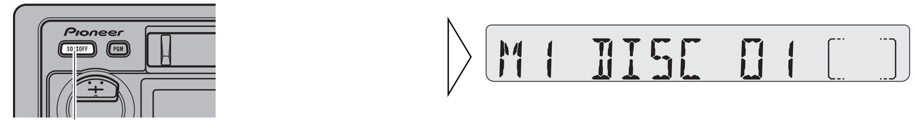
Besides Track Search convenience when searching for a desired track, this unit also lets you fast-forward and reverse through tracks to find a desired phrase or section of music.

Using Multi-CD Players

This product can control one or more multi-CD players.

Basic Operation of Multi-CD Players

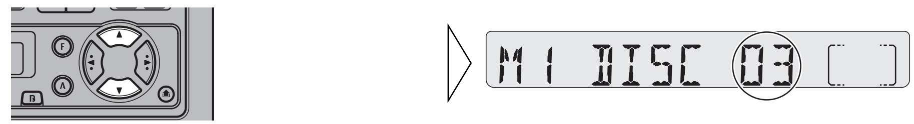
1. **Select the multi-CD player source.**



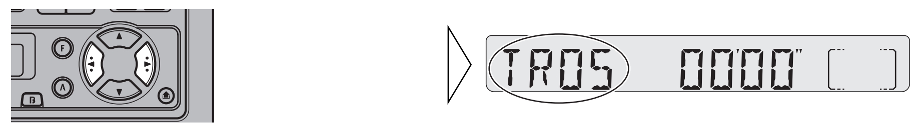
Each press
changes the Source ...

Note:
- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the multi-CD player cannot operate properly, an error message such as "ERROR 14" is displayed. Refer to the multi-CD player owner's manual.

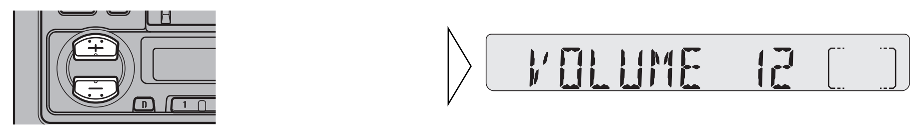
2. **Select the desired disc.**



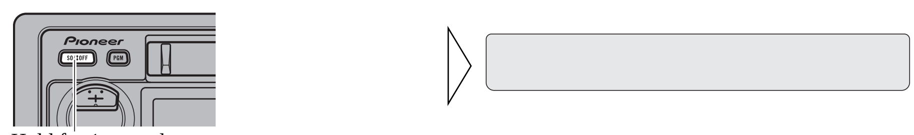
3. **Reverse or advance track by track.**



4. **Raise or lower the volume.**



5. **Turn the source OFF.**

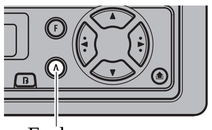


Hold for 1 second

Audio Adjustment

Selecting the Mode

- **Select the mode you want to adjust.**



Each press
changes the Mode ...

Each press of the AUDIO button selects the mode in the following order:
Fader/Balance → Bass → Treble → Loudness

When audio modes are selected for adjustment, the setting returns to the normal display after 30 seconds.

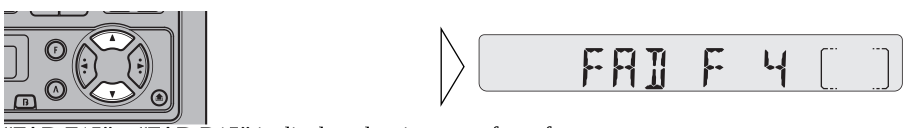
Balance Adjustment

This function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

1. **Select the Fader/Balance mode.**

   After adjustment use the BAND button to return to the normal display.

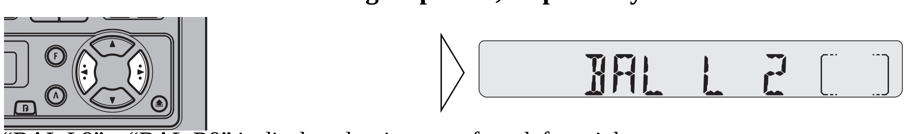
2. **Shift the balance progressively to the front or rear speakers.**



“FAD F15” – “FAD R15” is displayed as it moves from front to rear.

Note:
- “FAD 00” is the proper setting when 2 speakers are in use.

3. **Shift the balance to the left or right speaker, respectively.**



“BAL L9” – “BAL R9” is displayed as it moves from left to right.

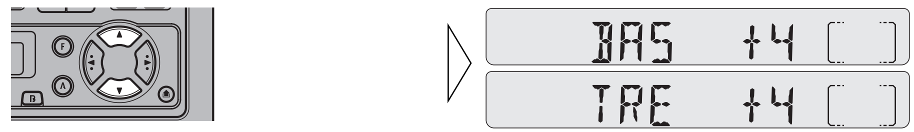
Bass/Treble Adjustment

This product is equipped with two tone adjustment modes, the Bass Adjustment and Treble Adjustment modes.

1. **Select “Bass Adjustment mode” or “Treble Adjustment mode”.**

   After adjustment use the BAND button to return to the normal display.

2. **Increase or decrease the intensity of the bass or treble, whichever is selected.**



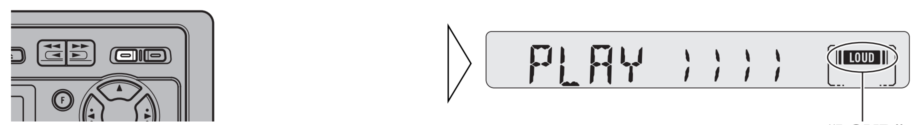
The display shows “+6” – “–6”.

3. **Repeat steps 1 – 2 above for the other Bass or Treble Adjustment mode.**

Loudness Adjustment

The Loudness function compensates for deficiencies in the low and high sound ranges at low volume.

- **Switch the Loudness function ON or OFF.**



“LOUD”

Note:
- You can also switch the Loudness function ON/OFF in the Audio Adjustment Menu.

Specifications (KEH-P2800/X1M/UC)

General

Power source .... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system .... Negative type
Max. current consumption .... 8.5 A
Dimensions
(DIN) (chassis) ...... 178 (W) × 50 (H) × 150 (D) mm
[7 (W) × 2 (H) × 5-7/8 (D) in.]
(nose) .... 188 (W) × 58 (H) × 19 (D) mm
[7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in.]
(D) (chassis) ...... 178 (W) × 50 (H) × 155 (D) mm
[7 (W) × 2 (H) × 6-1/8 (D) in.]
(nose) .... 170 (W) × 48 (H) × 14 (D) mm
[6-3/4 (W) × 1-7/8 (H) × 1/2 (D) in.]
Weight .... 1.2 kg (2.6 lbs)

Amplifier

Continuous power output is 17 W per channel min. into 4 ohms. both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output .... 40 W × 4
Load impedance .... 4 Ω (4 – 8 Ω allowable)
Preout maximum output level/output impedance
.... 2.2 V/1 kΩ
Tone controls
(Bass) .... ±12 dB (100 Hz)
(Treble) .... ±12 dB (10 kHz)
Loudness contour .... +10 dB (100 Hz), +7 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape .... Compact cassette tape (C-30 – C-90)
Tape speed ...... 4.76 cm/sec.(+0.14 cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time ...... Approx. 90 sec. for C-60
Wow & flutter .... 0.13% (WRMS)
Frequency response .... 40 – 14,000 Hz (±3 dB)
Stereo separation .... 45 dB
Signal-to-noise ratio .... 52 dB (IHF-A network)

FM tuner

Frequency range .... 87.9 – 107.9 MHz
Usable sensitivity
.... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio .... 70 dB (IHF-A network)
Distortion .... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response .... 30 – 15,000 Hz (±3 dB)
Stereo separation .... 40 dB (at 65 dBf, 1 kHz)
Selectivity .... 70 dB (2ACA)
Three-signal intermodulation
(desire signal level) .... 30 dBf (two undesire signal level: 100 dBf)

AM tuner

Frequency range .... 530 – 1,710 kHz
Usable sensitivity .... 18 µV (S/N: 20 dB)
Selectivity .... 50 dB

Note:
- Specifications and the design are subject to possible modification without notice due to improvements.

Specifications (KEH-P3850/X1M/ES)

General

Power source .... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system .... Negative type
Max. current consumption .... 8.5 A
Dimensions
(DIN) (chassis) ...... 178 (W) × 50 (H) × 150 (D) mm
(nose) .... 188 (W) × 58 (H) × 19 (D) mm
(D) (chassis) ...... 178 (W) × 50 (H) × 155 (D) mm
(nose) .... 170 (W) × 48 (H) × 14 (D) mm
Weight .... 1.2 kg

Amplifier

Continuous power output is 17 W per channel min. into 4 ohms. both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output .... 40 W × 4
Continuous power output .... 17 W × 4
(1% dist. at 1 kHz)
Load impedance .... 4 Ω (4 – 8 Ω allowable)
Preout maximum output level/output impedance
.... 2.2 V/1 kΩ
Tone controls
(Bass) .... + 8 - - 16 dB (100 Hz)
(Treble) .... ±12 dB (10 kHz)
Loudness contour .... +10 dB (100 Hz), +7 dB (10 kHz)
(volume: –30 dB)

Cassette player

Tape .... Compact cassette tape (C-30 – C-90)
Tape speed ...... 4.76 cm/sec.(+0.14 cm/sec.,-0.05cm/sec.)
Fast forward/rewinding time ...... Approx. 90 sec. for C-60
Wow & flutter .... 0.13% (WRMS)
Frequency response .... 40 – 14,000 Hz (±3 dB)
Stereo separation .... 45 dB
Signal-to-noise ratio .... 52 dB (IHF-A network)

FM tuner

Frequency range .... 87.5 – 108 MHz
Usable sensitivity
.... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio .... 70 dB (IEC-A network)
Distortion .... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response .... 30 – 15,000 Hz (±3 dB)
Stereo separation .... 40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range .... 531 – 1,602 kHz (9 kHz)
530 - 1,710kHz (10 kHz)
Usable sensitivity .... 18 µV (S/N: 20 dB)
Selectivity .... 50 dB (±9 kHz)
50dB (±10 kHz)

Note:
- Specifications and the design are subject to possible modification without notice due to improvements.